

EXCAVATIONS IN WALTON, AYLESBURY, 1985–1986

HAL DALWOOD, JOHN DILLON,
JANE EVANS AND ALISON HAWKINS

Two areas excavated in Walton, Aylesbury, in 1985–6 revealed evidence of Middle Bronze Age, Saxon, and Medieval settlement. At the Walton Lodge site, a Middle Bronze Age round house was provisionally identified, as well as a Saxon post-built building, together with medieval stone structures. At the Teachers' Centre site further evidence for medieval occupation was found in the form of pits and boundaries. Slight evidence was found for late prehistoric and Roman activity at both sites.

Introduction

by Hal Dalwood

The subject of this report is two excavations in Walton, Aylesbury, directed by the writer in 1985–6. They were carried out on behalf of Buckinghamshire County Museum, and formed the first part of the programme of archaeological fieldwork performed by the Aylesbury Past Project between 1985 and 1988. Later excavations in Walton and elsewhere have been or will be the subject of further reports (Hawkins and Dalwood 1988; Dalwood and Hawkins forthcoming). The two sites are described separately following an outline of the background history and archaeology. The finds from both are deposited at Buckinghamshire County Museum (respectively Accession Numbers 391.1986 and 392.1986) as are the site archives (respectively CAS 5499 and 5500).

Topography

The settlement of Walton once formed a hamlet immediately adjacent to the town of Aylesbury, but had become barely distinguishable from Aylesbury by the 1980s. The growth of the town from the 1960s onwards swallowed the hamlet and absorbed much farmland, an expansion which largely ignored the topographical features that influenced the initial location of Walton and Aylesbury (Fig. 1). The local geology had an obvious influence on earlier settlement: the Portland Beds, of soft limestone and sands, form a slightly elevated ridge running south-west to north-east across

the county, and carry more fertile and better-drained soils than the clays of the Vale of Aylesbury to the north and south (Avery 1964; Jones, M. 1986, 42). These good soils were clearly preferred settlement locations from an early period (Farley 1976, 159; Allen and Dalwood 1983, 1; Allen 1986, 3; Carstairs 1984, 92), although the heavier clay soils were also exploited from the Middle Iron Age (Farley *et al.* 1984, 34; Jones, M. 1986, 42). Walton and Aylesbury are both on the Portland Beds, separated from each other by a small valley and streams. Aylesbury stands at 92m OD, a local eminence crowned by an Iron Age hillfort (Farley, forthcoming), and St Mary's church (Fig. 2:10). Walton also stands on the Portland Beds, at c.82m OD, but is scarcely distinguishable in elevation from the landscape to the south.

Modern development in the area has occurred within and around the historic settlements on the Portland Beds, and recent archaeological activity has concentrated on this area in response to development threats. A fieldwalking programme carried out in the area surrounding Aylesbury has tended to confirm that these better drained soils were preferred from the earlier prehistoric period (Dalwood and Platell 1988).

Background History and Archaeology

The available historical sources for Walton were discussed in the report on the 1973–4 ex-

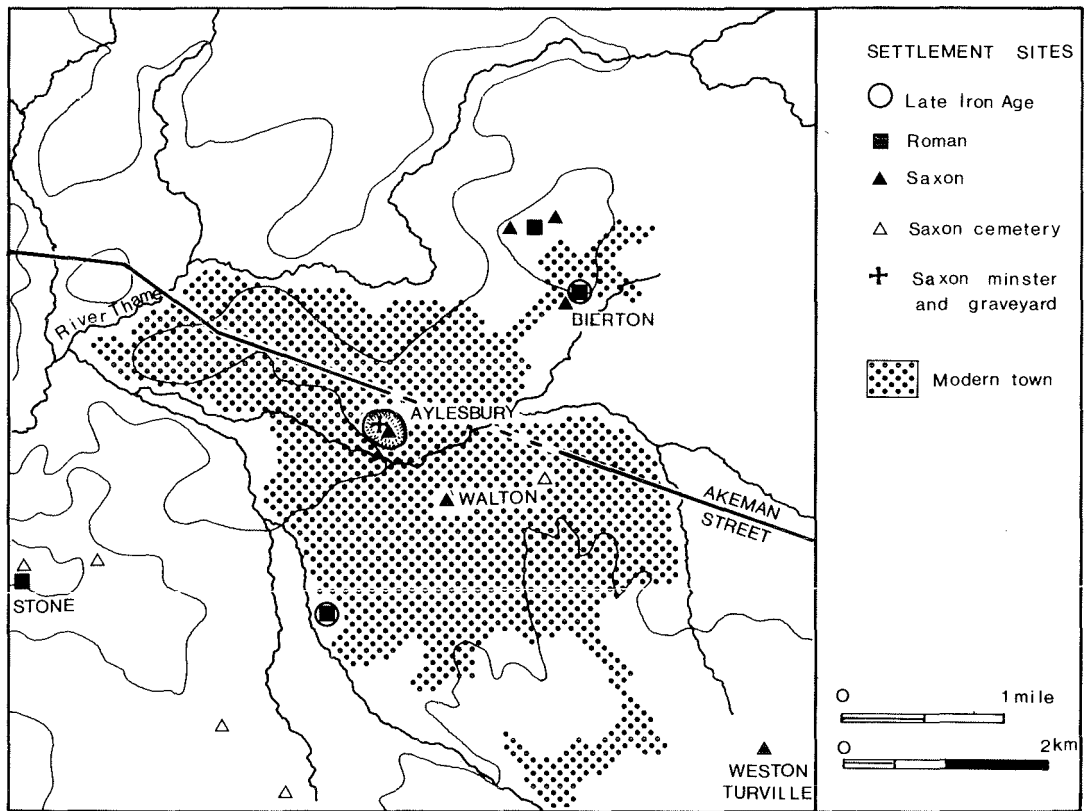


Fig. 1. Topography of Aylesbury and Walton, and major settlement locations.

cavations at Walton Vicarage (Elvey 1976), and the archaeological background was also reviewed there (Farley 1976, 154; and below). In the ensuing decade a number of excavations have been carried out in Aylesbury and its immediate area (Fig. 2; Farley *et al.* 1981; Allen 1982; Allen and Dalwood 1983; Allen 1986; Farley forthcoming) and have considerably improved understanding of the development of Aylesbury. A certain amount of place-name research has also had a direct bearing on the present excavations, and this will be discussed first.

The Place-name

Walton is a widely distributed place-name in England, and has received particular attention since many 'Waltons' can be shown to contain the Early Saxon place-name element *walh*, meaning Celtic-speaker or Briton (Cameron

1979). This has important implications for archaeologists and historians studying the Saxon period; a Walton (or Walcot) may be the settlement of the Celtic-speaking descendants of the Romano-British population. However, in the case of Walton in the parish of Aylesbury, the earliest form known is not acceptable to philologists as a possible derivative of *walh* (*ibid.*, 8) and, as Elvey (1976) pointed out, it should be derived from either *w(e)aldtun* (farmstead or village in a wood or on a wold) or *w(e)alltun* (farmstead or village by a wall). The place-name suggests either the presence of extensive woodland, or a Roman settlement with derelict stone buildings adjacent to the Saxon settlement. Neither derivation can easily be reconciled with the available archaeological evidence. There was slight evidence for Roman occupation at the Walton Vicarage site, consisting of pottery, roofing tile, and a few coins,

but no datable Roman features were found (Farley 1976, 163). The focus of Roman settlement in the immediate area lies at the Walton Court site, 1.5km south-west of the Saxon and medieval settlement focus at Walton, but no stone buildings were found there either (Fig. 1; Farley *et al.* 1981, 53). It seems unlikely that Roman masonry structures await discovery in the immediate area of Walton, although Roman buildings were found at Bierton, 2km to the north-east (Allen 1986). If the derivation from *weall* (wall) cannot be supported on archaeological grounds, the derivation from *weald* (woodland or wold) is no more attractive. Use of the surrounding soils was clearly highly developed by the late Iron Age (Jones, M. 1986), and within the town Roman pottery and coins are found extensively if not abundantly (Allen and Dalwood 1983, 17, 50); field boundaries and pits are also known (Allen 1982). This evidence indicates that the area was intensively farmed in the Roman period, and possibly continued to be so into the fifth century and beyond, although there is no evidence for direct continuity of settlement sites (Allen 1986, 114). It can only be concluded that at present the archaeological data and philological orthodoxy are not reconcilable.

The Archaeology of the Aylesbury Area

The earliest evidence of occupation has come from Walton, where residual Neolithic material was found (Farley 1976, 160–2), and Neolithic material has been tentatively identified at other sites in Aylesbury (Dalwood forthcoming). In Aylesbury, evidence for Bronze Age activity was limited to a single hoard (Fig. 2:11; Farley 1979b). In 1985, the discovery of the Iron Age hillfort underlying the historic core of the town confirmed an earlier supposition based on the interpretation of the place-name (Waugh *et al.* 1974, 405). Within the hillfort, a ritual deposit of human and animal bone was excavated at the Prebendal Grounds site; this seems to be a virtually unique discovery (Fig. 2:9; Farley forthcoming). Iron Age features were also found at the George Street site (Fig. 2:7; Allen and Dalwood 1983), but were absent from sites and watching briefs in the eastern half of the historic core of the town (Allen 1982; Farley

1986). The extent of the hillfort remains uncertain. No other settlements contemporary with the hillfort have been found; but there are Late Iron Age settlements at Walton Court (Farley *et al.* 1981) and Bierton (Allen 1986). The archaeological evidence shows that the area of the historic town, with the exception of one small enclosure (Allen 1982), was not inhabited in the Roman period; this area then was used as farmland. The known Roman settlements in the Aylesbury area are some distance from the Roman road (Akeman Street) that passes through the centre of Aylesbury (Fig. 1). These two settlements, at Walton Court (*ibid.*) and Bierton (Allen 1986), have so far only been partially investigated.

Archaeological evidence for the Early Saxon period is concentrated at Walton Vicarage site, where a 2400m² excavated area was occupied from the fifth to the seventh centuries (Farley 1976). Excavations in Aylesbury have recovered Early Saxon pottery as residual material in very limited quantities (Allen and Dalwood 1983, 50; Farley forthcoming), but no Early Saxon features have been encountered, and excavation has provided little direct evidence for the nature of the settlement that appears in the *Anglo-Saxon Chronicle* for 571 (*ibid.*). Located perhaps within the ramparts of the Iron Age hillfort in the sixth century, the archaeological evidence for Early Saxon Aylesbury remains elusive. The excavation at Bierton Vicarage also recovered Early Saxon pottery and other finds on a Roman site of long occupancy, but no evidence for Saxon buildings was found there (Allen 1986).

The excavations at George Street investigated part of an extensive Christian cemetery, dated to the Middle Saxon period, within the eighth to ninth centuries (Fig. 2:7; Allen and Dalwood 1983, 51). A Middle Saxon ditch (containing Ipswich ware and a *sceat*) was found recut into the upper fills of the Iron Age hillfort ditch at the Prebendal Grounds site (Fig. 2:9; Farley forthcoming). The archaeological evidence supported the suggestion, based on historical evidence, that the church at Aylesbury originated as the 'minster' (*monasterium*) for central Buckinghamshire at

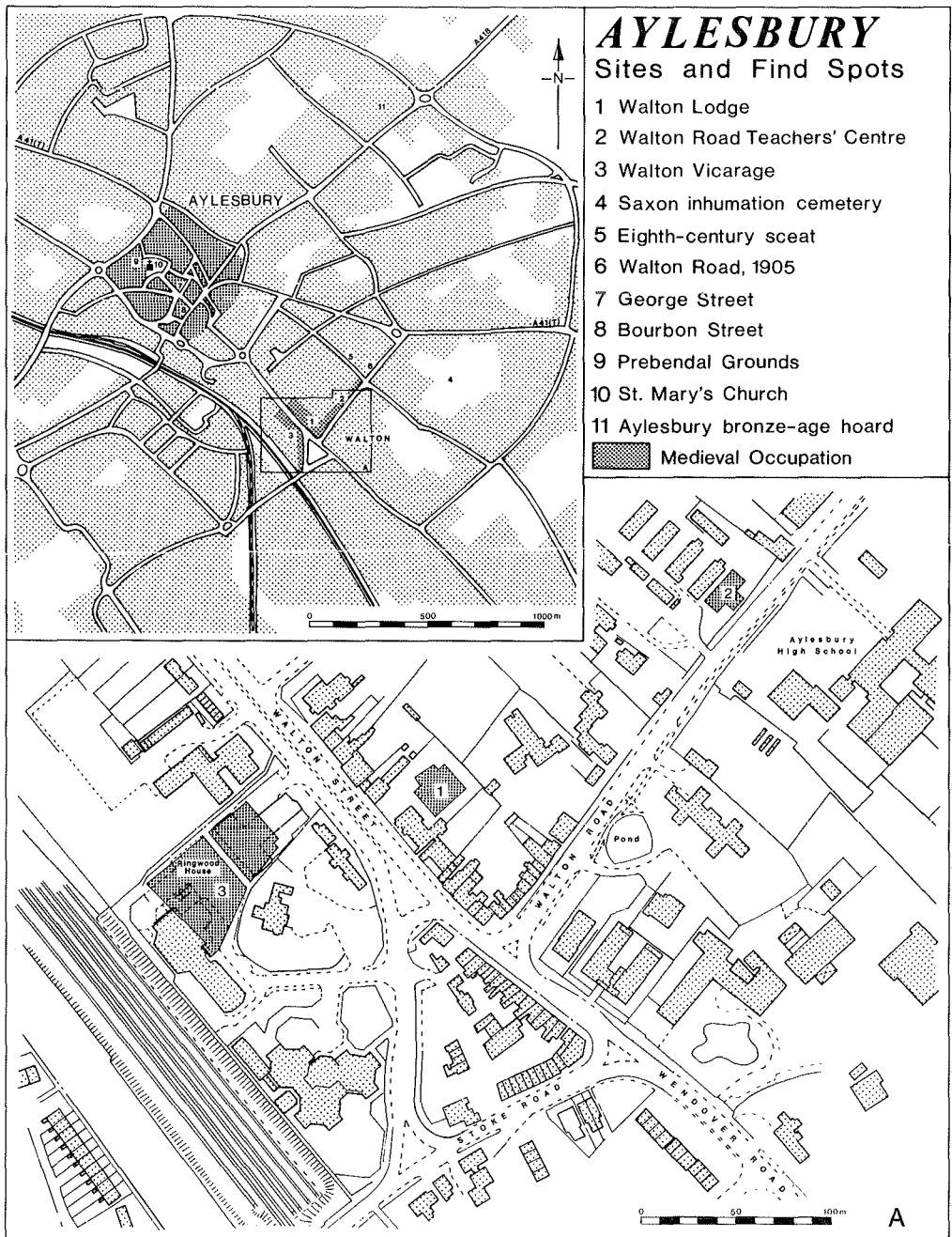


Fig. 2. Sites and findspots in Aylesbury and Walton.

an early date, perhaps in the seventh century (Farley 1979a, 120; Allen and Dalwood 1983, 52). As well as being an ecclesiastical centre, Aylesbury was perhaps by this period the centre of royal power (a *villa regia*) for a large territory which closely corresponded to the later hundred (Baines 1984, 11). In Walton, however, little evidence for Middle Saxon occupation had previously been found (Farley 1976, 167), although an eighth-century *sceat* was found in the area (Fig. 2:5; Metcalf 1983). The record of Aylesbury in Domesday Book indicates its continuation as an important ecclesiastical and administrative centre, the *caput* of the Aylesbury hundred, but there is little archaeological evidence for Late Saxon economic activity or settlement (Allen and Dalwood 1983, 53). Although Aylesbury possibly had defences in the Late Saxon period (Farley 1974), tenth to eleventh-century material is uncommon, even as residual finds in medieval deposits, and there is more archaeological evidence for the period from the Walton Vicarage site than from Aylesbury itself (cf. Farley 1976, 228).

Excavation in Aylesbury demonstrated an apparent increase in urban activity in the twelfth century, revealed as a concentration of rubbish and cess pits within the medieval tenements (Allen 1982, 105–6; Allen and Dalwood 1983, 53–4; Farley forthcoming). The early modern street pattern preserved the medieval topography fairly accurately, and remains of medieval buildings have only been found at the Prebendal Grounds site (Farley forthcoming).

Historical evidence shows that in the twelfth century Aylesbury was emerging as a fully urban centre, and acquiring some of the administrative functions of Buckingham, the original county town (Allen and Dalwood 1983, 53).

The contemporary evidence from Walton indicated continuous occupation from the ninth century onwards; the increasing size and regularity of the property boundaries at the Walton Vicarage site suggested that the manorial complex of Walton encompassed the site from the eleventh century, and was of gradually increasing status (Farley 1976, 250). The archaeological evidence indicates that the street pattern of Walton as a crossroads settlement was established by at least the twelfth century. This is supported by the cellared structure excavated in Walton Road in the early part of this century (Cocks 1909), but Walton Street probably formed an arterial route as early as the tenth century (Farley 1976, 157, 228). The increasing status of the Walton Vicarage site in the twelfth century is paralleled at the contemporary manorial complex at Berton (Allen 1986, 94–6). In the thirteenth and fourteenth centuries Aylesbury and its surrounding agricultural settlements were prosperous, the town becoming the administrative and economic focus of the county by the end of the medieval period.

In the following account, the features discovered during the excavation are discussed in chronological order.

MIDDLE BRONZE AGE, SAXON AND MEDIEVAL OCCUPATION AT WALTON LODGE, WALTON TERRACE

by Hal Dalwood and John Dillon

Introduction

The Walton Lodge site lay in the back garden of a villa of that name, which occupies a prominent position (84m OD) in Walton Terrace on the east side of Walton Street, Aylesbury (Fig. 2:1; SP8238 1324). At the time of the excavation Walton Lodge was derelict but

planning permission had been given to rebuild the house as offices and extend it to the rear. It was anticipated that such redevelopment would damage any archaeological deposits present, the existence of which seemed likely in view of the proximity to the Early Saxon settlement excavated at Walton Vicarage in 1973–4

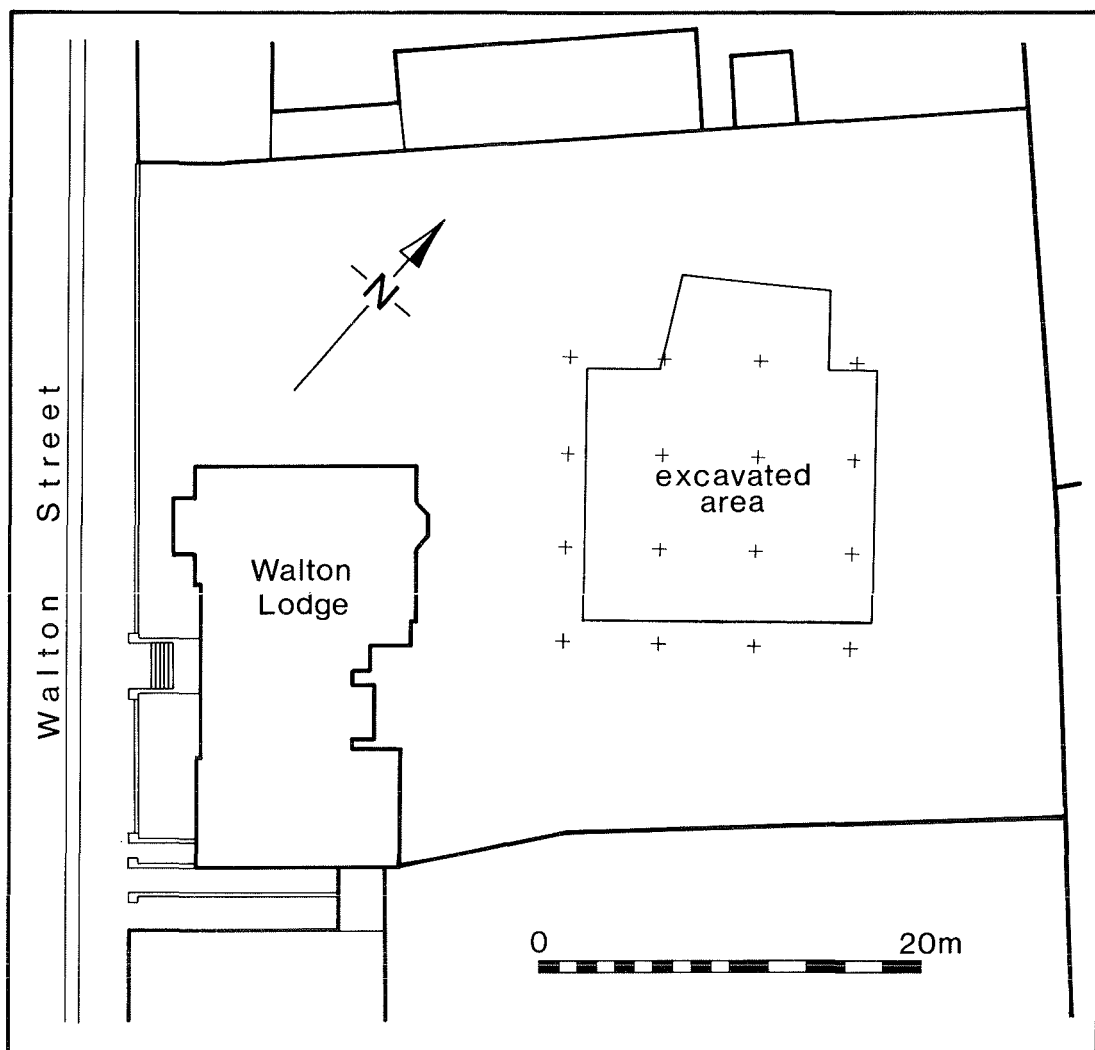


Fig. 3. Walton Lodge, excavated area (1985).

(Fig. 2:3; Farley 1976), 100m to the west on the opposite side of Walton Street, and proximity to Walton Street itself, which follows a route that was established by at least the Late Saxon period (*ibid.*, 229).

The excavated area totalled 242m², its limits restricted by standing buildings and trees that had to be retained for future landscaping (Fig. 3). The site was excavated in the winter of 1985-6. In the following account context numbers are given in brackets.

Excavation Methods

Modern and Victorian topsoil was removed from the site by digger/loader to a depth of 0.50m. At this point two stone structures were observed, and excavation proceeded by hand. Below these, a deposit of material, termed here a 'dark soil', 0.20m thick, was identified and carefully excavated in order to separate layers and to identify cut features, consisting of gullies, small pits, and numerous postholes. It proved difficult to distinguish the many small features and it is clear that some features were



Plate VII. Walton Lodge: excavated area, with possible Bronze Age roundhouse between ranging poles (looking west).

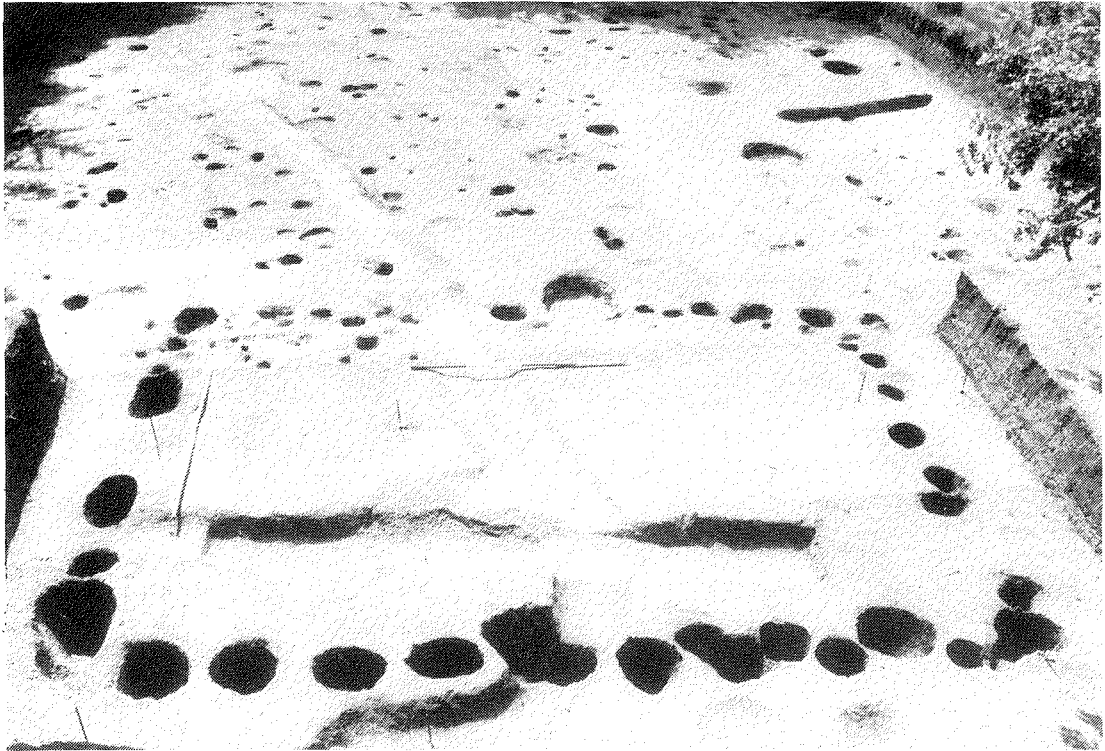


Plate VIII. Walton Lodge: the Saxon building (looking south-east).

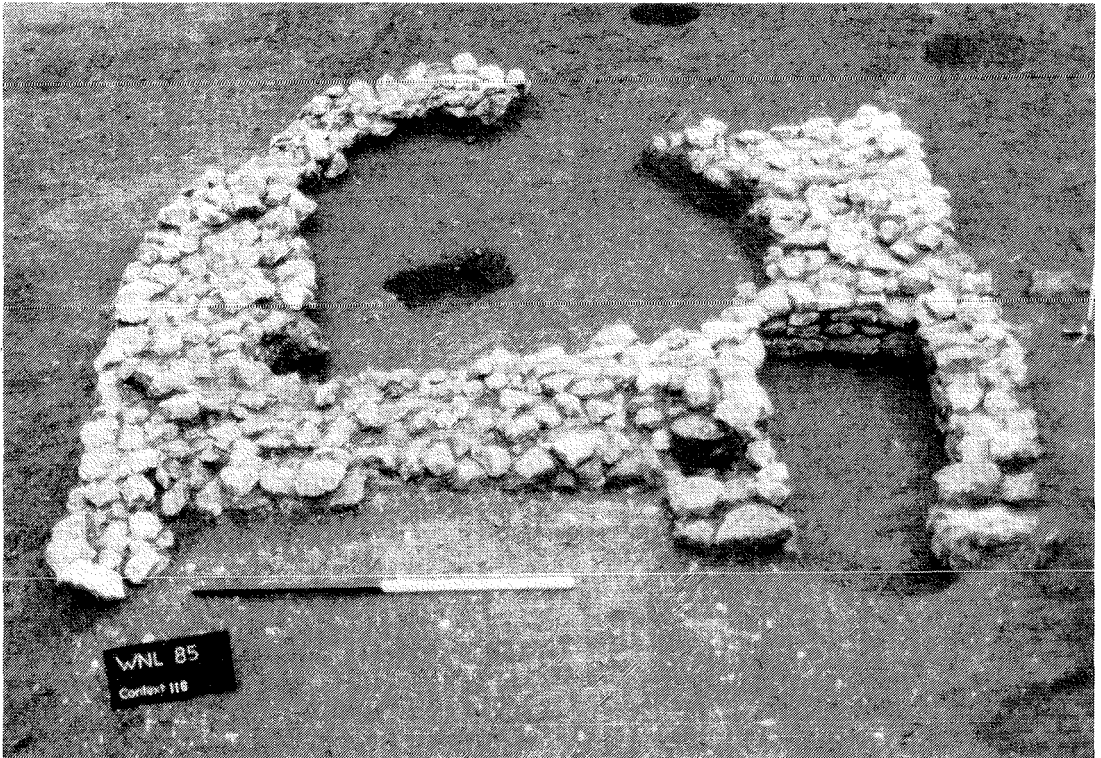


Plate IX. Walton Lodge: medieval oven.



Plate X. Walton Road Teachers' Centre: medieval pits (looking south-east).

not observed at the level from which they were originally cut. The archaeological deposits were removed down to natural (83m OD), which consisted of coarse yellow-orange sand.

Phasing the Site

The major periods of activity on the site were dated by Middle Bronze Age, Saxon and medieval pottery. The excavated evidence is presented below as a series of phased periods of activity (Table 1). The dating of individual features was difficult; many features dated to the Saxon period on stratigraphic grounds contained only residual prehistoric pottery, which, together with the lack of absolute confidence in identification of all features cutting overlying layers, means that the interpretation of post-hole scatters must be cautious.

Table 1. Phases of activity at Walton Lodge.

<i>Period</i>	<i>Archaeological Evidence</i>
Early Bronze Age	Pottery (?) and flint only.
Middle Bronze Age	Postholes, pits, layers, pottery, copper alloy, fired clay, flint and stone artefacts, and animal bone.
Late Bronze Age/ Early Iron Age	Pottery only.
Late Iron Age	Pottery only.
Roman Period	Pottery and <i>tegulae</i> .
Early Saxon	Pottery, other artefacts(?)
Middle Saxon	Postholes, gullies, small pits, pottery, stone, fired clay and bone artefacts, and animal bone.
Late Saxon	Pottery only.
Medieval (C12th)	Stone structures, small pits, postholes, pottery, other artefacts and animal bone.

The Middle Bronze Age Occupation

The earliest archaeological features at the Walton Lodge site consisted of a scatter of postholes, small scoops, slots and other irregular features (Fig. 4). All the features were cut directly into the natural subsoil and most of the Bronze Age features, together with undated features, were overlain by the 'dark soil' deposit described below.

Below the 'dark soil' deposit, two discrete spreads of different material overlay the natural sandy limestone (Fig. 4:584 and 721). These contained only Bronze Age material. The layers were c.0.05m thick and were composed of clayey soil, containing struck flints, Deverel-Rimbury pottery and animal bone. It is tempting to regard these layers as occupation deposits within a contemporary structure, and they were associated with a concentration of postholes.

Postholes and the Suggested Roundhouse

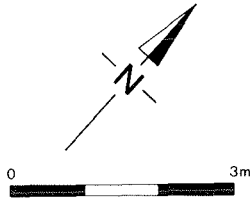
A dense scatter of postholes and other small features were excavated below the 'dark soil' deposit (Pl. VII). The interpretation of the posthole scatter depends on their contemporaneity, based on contained material, and it is possible that some 'Bronze Age' features are in fact of a later date. The eastern half of the excavation contained a concentration of postholes and other small features. No entirely convincing house plan can be deduced from the plan, but a possible interpretation is offered (Fig. 4). The internal circle (3320) has a diameter of c.7m, composed of postholes varying depth (between 0.03m and 0.26m) and size (between 0.08m and 0.20m diameter) spaced approximately 1.8m apart. In addition, an outer circle of postholes (3321) is indicated, diameter c.10m. This plan follows the general form of Middle Bronze Age houses, first suggested at Shearplace Hill (Avery and Close-Brooks 1969). Although the posthole distribution here clearly admits of other interpretations, the existence of Bronze Age deposits (584 and 721) inside the house plan may support the interpretation given here; that is, a double circle of posts, with the inner supporting the roof which projected beyond them, and an outer wall of posts supporting the eaves. In fact, the house plan given here is if anything more regular than those at Black Patch (Drewett 1982) or Thorny Down (Stone 1941). The datable Middle Bronze Age small finds have been plotted onto the house plan, and they tend to cluster within the postulated structure.






Other Features

Outside the area of the suggested building, a number of other small features were

WALTON LODGE

Bronze Age features



-  Posthole $\geq 0.10\text{m}$
-  Post-pipe
-  Quernstone
-  Shale-Cu.alloy
-  Loomweight

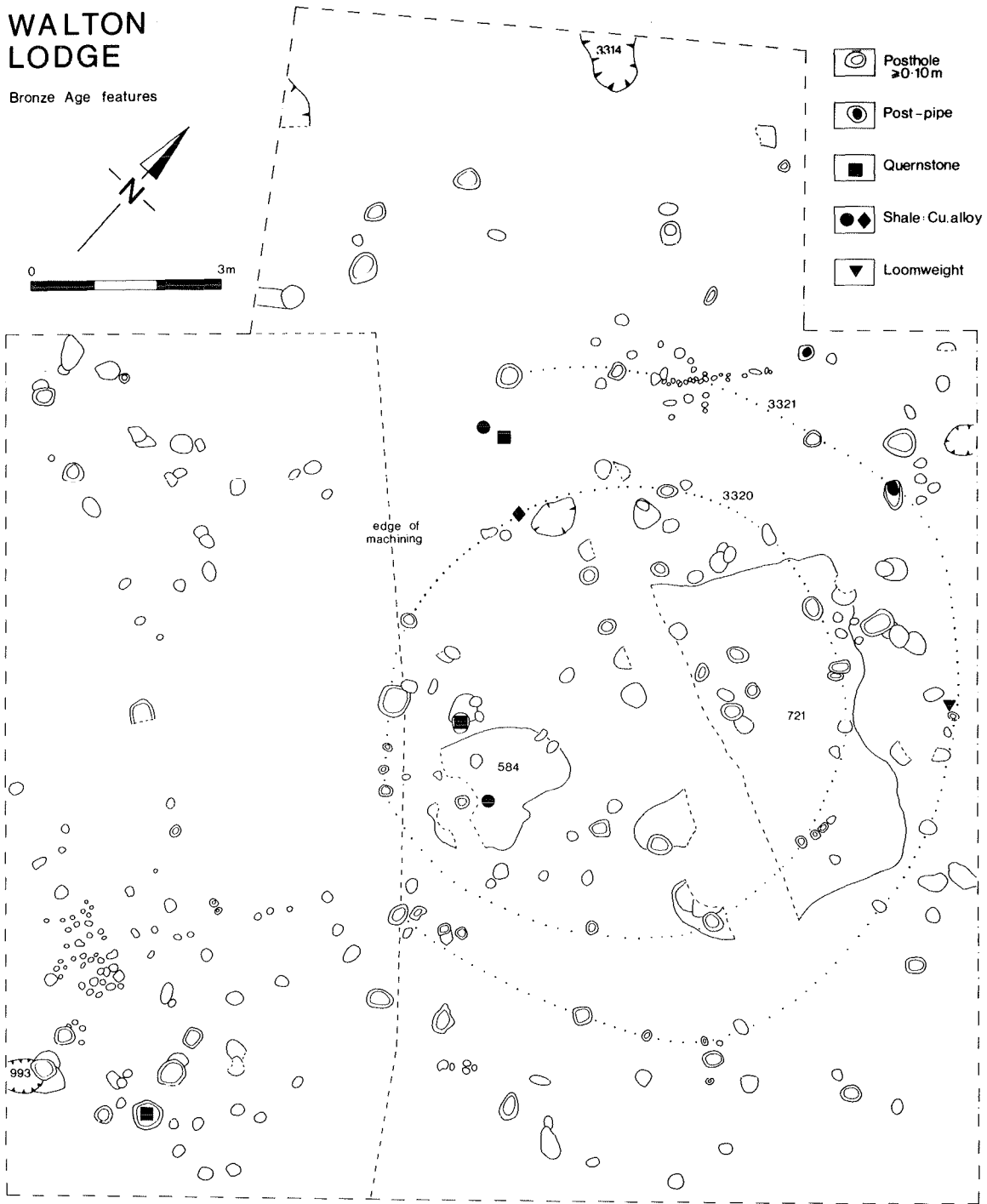


Fig. 4. Walton Lodge, Middle Bronze Age features.

detected. These formed an irregular scatter across the excavated area, and cannot readily be interpreted.

The Late Bronze Age to Early Saxon Periods and the 'Dark Soil'

Although no features on the site were certainly dated to the period between the Middle Bronze Age and Saxon Periods, a quantity of pottery was recovered dating to the intervening period, as well as Roman *tegulae* (see below). The 'dark soil' deposits described below (227 etc.) contained Late Iron Age and Roman pottery (see below). No features were dated to the Early Saxon period (fifth to sixth century) although the 'dark soil' deposit contained three of four stamped sherds found at the site. The majority of the Saxon pottery, though undecorated and largely undiagnostic, is dated to the Middle Saxon period (see below). However, two shallow, narrow, parallel linear slots (Fig. 5:737, 802) may be interpreted as plough furrows. They are not precisely dated, except that they have a Bronze Age *terminus post quem*, but it seems possible that they represent evidence for post-Bronze Age ploughing.

The 'dark soil' deposit had a number of features cut into its upper surface, most of which proved to be of Saxon date (Fig. 5). The deposit itself was removed in three spits (277, 388 and 411), with a maximum overall depth of 0.20m, and contained a large quantity of Deverel-Rimbury pottery and contemporary flintwork (see below), as well as Iron Age, Roman and Saxon pottery, all in small quantities. The proportions of Deverel-Rimbury to later pottery (by sherd count), was 3,459:787, i.e., 82% of the pottery was of Bronze Age date. The Saxon pottery, which gave the *terminus ante quem* for these layers, was represented by only 4% of the pottery (160 sherds). It seems clear that there was a substantial deposit of Middle Bronze Age material on the site, which was subsequently disturbed. When this disturbance occurred is uncertain, as is its nature. The presence of Roman and Saxon pottery could be due to agricultural activity, as well as the later occupation.

The Saxon Occupation

A large number of postholes and shallow features, as well as gullies, small pits, and layers were dated to the Saxon period by artefacts and stratigraphic evidence (Figs. 5 and 7). The most significant structural feature was the rectangular building (3259) which lay on the north side of the excavated area (Pl. VIII). Apart from the features in the western part of the site, all the Saxon features were cut into the top of, or overlay, the 'dark soil' described above.

The majority of Saxon features did not have any direct stratigraphic relationships, nor was it possible to date them more closely from the pottery associated with them. A few features however pre-date the building.

Pre-Building Occupation and Other Features

Two gullies of similar dimensions crossed the site. The earlier (3319) ran south-east to north-west across the site before turning to run in a northerly direction. A later gully (3223) ran south-west to north-east across the site, crossing 3319 at right-angles. These gullies contained homogeneous clay-silt fills of similar material to the 'dark soil', suggesting natural silting, and can be interpreted as successive enclosure boundaries.

Two rectangular scoops (347 and 349, depth c.0.15m) replaced each other and pre-dated one gully (3319). Their form is reminiscent of sunken-floored buildings, such as those found at Walton Vicarage (Farley 1976), but they are shallow and lack postholes at either end. One small pit (401) was cut by one of the postholes of the building; it was clay-lined and contained burnt pottery, animal bone and stones. A function as a small hearth or other food processing seemed likely.

The Saxon Rectangular Building

The plan of the post-built rectangular building (3259; Pl. VIII) was recovered, consisting of 66 postholes, of which 16 contained post-pipes and two double post-pipes. The corners of the plan were marked by large circular postholes; the dimensions between the centres of these

WALTON LODGE

Saxon features

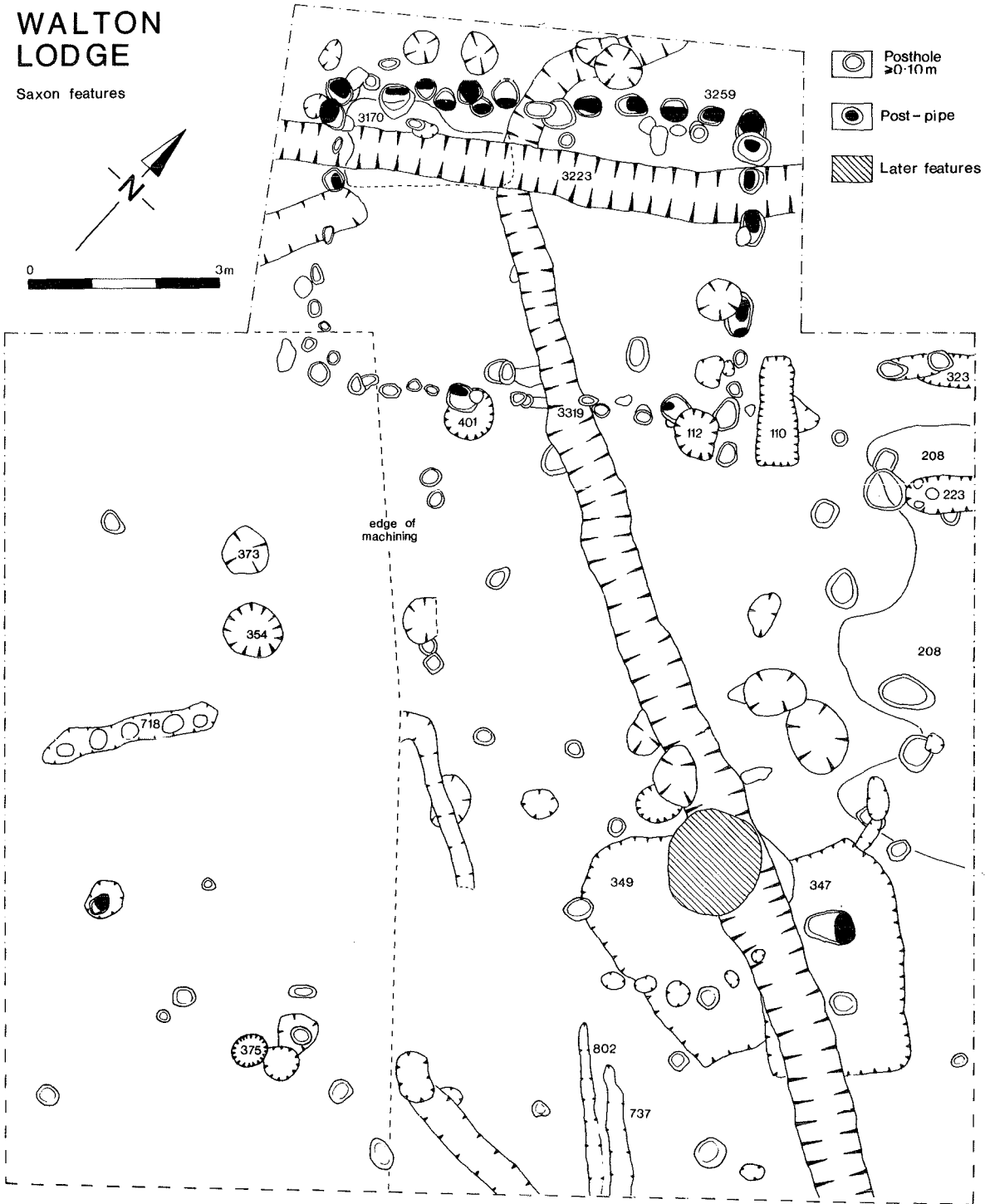


Fig. 5. Walton Lodge, Saxon features.

was 6.30m × 4.5m, and the interior dimensions of the building were 6m × 4m (in area 24m²). The building was aligned south-west to north-east and had no detectable doorway in the long walls, but there was a probable door in the eastern end wall, marked by two larger post-holes containing substantial oval post-pipes (0.38m × 0.20m and 0.32m × 0.20m). It seems likely that these posts formed a doorway c.1.00m wide.

The fills of the postholes around the post-pipes were of the same material as the 'dark soil' deposit they were cut into. They contained far more Bronze Age than Saxon pottery; only nine of the post holes contained any Saxon pottery (total 16 sherds), whereas most contained Bronze Age pottery. Apart from these datable postholes, 37 contained only pre-Saxon pottery, and a further 20 contained no pottery. The small quantity of Saxon pottery in the postholes clearly derives from the pre-building Saxon occupation. The only material directly related to the occupation of the building itself was a layer of soil delineated by its wall lines (3170; Fig. 5). This layer, 0.05m thick, contained fragmented Saxon pottery (3 sherds, mean wt. 2.53g) and animal bone (89 fragments, mean wt. 3.25g) and residual pottery. The layer may be an occupation deposit, but if so the small number of sherds indicated that little refuse was allowed to accumulate within the building.

Construction Details of the Building

The closely spaced postholes along the wall lines (15 along the better preserved northern wall), mostly with post-pipes set against one side of the hole, are evidence for the construction techniques employed. The post-pits were ovoid to circular (c.0.30m dia. to c.0.50m dia.) containing ovoid post pipes (typically c.0.30 × c.0.18m) clearly detectable by their fills, which contained sandy yellow limestone. The regular form, alignment and close spacing of the post-pipes suggests that a technique using upright planks was employed. This technique is apparent at a number of other Saxon sites where the evidence is better preserved, such as Brandon, Suffolk (Carr forthcoming) and Cowdery's Down, Hampshire (Millet 1983). In par-

ticular, the north-western corner of the Walton Lodge building, which exhibited the clearest evidence, could be interpreted as consisting of staggered vertical timbers in individual post-holes, a technique comparable with the B4 and C12 type wall panels at Cowdery's Down (*ibid.* 228–33). However, little daub was found at Walton Lodge, so it is not certain that wattle-and-daub panels were used to infill the gaps; at Brandon the absence of daub has been interpreted as being indicative of weatherboarded walls (Carr *pers. comm.*). The corner postholes at Walton Lodge were substantial (c.0.40m deep and c.0.60m deep, with circular post-pipes c.0.30m diam.) which contrasts with the 'weak' corners of the posthole buildings at Cowdery's Down and Brandon.

No evidence for a door in either long side was found, and it is possible that the building had a gable door.

The building is at the smaller end of the range of Saxon post-built buildings (24m²) and does not conform to the 'two-square module'; however, other buildings of similar size and plan are known (James *et al.* 1984, fig. 6). The small size and absence of a hearth suggests that the building was not a dwelling, but rather an agricultural building.

Other Features Possibly Contemporary with the Building

A number of features may have been contemporary with the building; these include two pits (110 and 171), and two parallel trenches containing post-pipes (233 and 323), forming undefined structures. A layer of darker soil (Fig. 5:208) contained a concentration of artefactual material and animal bone, which seems to have been in contact with cess (see Animal Bone report below). The pottery was more plentiful here (18.4 sherds per m²) than in the occupation deposits within the building (3170), and less fragmentary (115 sherds, mean wt. 5.47g; 304 bone fragments, mean wt. 7.82g). This deposit might be interpreted as the remains of a midden.

Other Saxon Features

The remaining Saxon features cannot be al-

lotted to either the pre-building or the building phases. They included a number of small pits (354, 375 and 610). One of these (354) contained a small bone comb (Fig. 16:36), and another (375) a horse skull, lacking the mandible (see Animal Bone report below), which the feature had been dug to accommodate. Other features included a number of shallow scoops, a scatter of postholes, other small shallow features, and two irregular shallow gullies (258 and 270). Many of these have a Saxon *terminus post quem* based on the fact they cut the 'dark soil' deposit, and were sealed by medieval layers, but few contained Saxon pottery.

Medieval Occupation

The latest features on the site (apart from a few nineteenth-century features), were two twelfth-century structures: a large stone structure (Pl. IX) and an adjacent linear spread of rubble. A number of smaller features were also found. The stone structure (163) was D-shaped, and constructed of angular limestone rubble, well packed together. It measured 3.20m by 2.80m overall, and built into the flat side was a small rectangular box-like feature (128), 1.0m × 0.50m, with carefully laid edge stones. The stone rubble showed no signs of heating, nor was charcoal obtained in quantity from nearby. Although it somewhat resembled free-standing hearths or ovens found elsewhere (cf. Baker and Hassall 1979, fig. 80, 5), there was no stone floor (although this could have been deliberately removed), and it appears to be rather large in comparison to the usual medieval bread ovens. One alternative may be that it was the base of a malting kiln. The adjacent linear rubble spread (108) is best interpreted as a path. Other features of the period consisted of one pit (171: Fig. 7), and a scatter of postholes, shallow scoops, and small gullies.

The Pottery by Jane Evans

Introduction

A total of 11,160 sherds were recovered during the Walton Lodge excavations (50.6kg), divisible by period as shown in Table 2.

Table 2. The Walton Lodge pottery, by period.

<i>Period</i>	<i>Sherds</i>	<i>Per-centage</i>	<i>Weight (g)</i>	<i>Per-centage</i>
Bronze Age and Early Iron Age				
Iron Age	7,047	63.0	28,299.4	56.0
Late Iron Age	1,340	12.0	4,810.2	9.5
Roman	408	3.7	1,101.1	2.2
Saxon	1,022	9.2	6,980.4	13.8
Medieval	92	11.0	7,527.3	14.9
Post-Medieval	41	0.8	1,703.5	3.4
Undated	11,160	0.4	179.5	0.4
Total			50,601.4	

In the following report the pottery is discussed chronologically. The Roman pottery was studied by Stephen Benfield. The writer would like to thank Dr Anne Ellison for her assistance in identifying the Bronze Age pottery, and Mike Farley, Barbara Hurman and Hal Dalwood for their advice in writing this report. For all catalogued finds, details of context and archive, 'small finds' numbers (SF) are given.

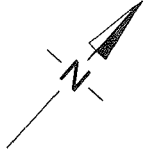
Methodology

As no local fabric series had been devised, one had to be set up before the pottery could be assessed. Using a magnification of ×20, the sherds were sorted into broad groups, based on predominant inclusions (Peacock 1977). These groups were subdivided according to size, frequency, rounding and sorting of the inclusions, using the Department of Urban Archaeology (Museum of London) guidelines. The fabrics thus arrived at were then submitted for petrological examination (Woods and Rogers, Archive Report), after which some groups were merged. The resulting fabric series formed the basis for classifying the remaining prehistoric and Saxon pottery from the site.





The pottery was processed by context, where possible being divided first into fabrics, and then periods. The quantities were assessed by both number and weight, the latter being to the nearest gram. The attributes of every sherd were noted beginning with the technical aspects of manufacture (hand or wheel made)

WALTON LODGE

Medieval and Post-Medieval features



0 3m

-  Posthole
≥0.10m
-  Post-pipe
-  Limestone
-  Post-medieval

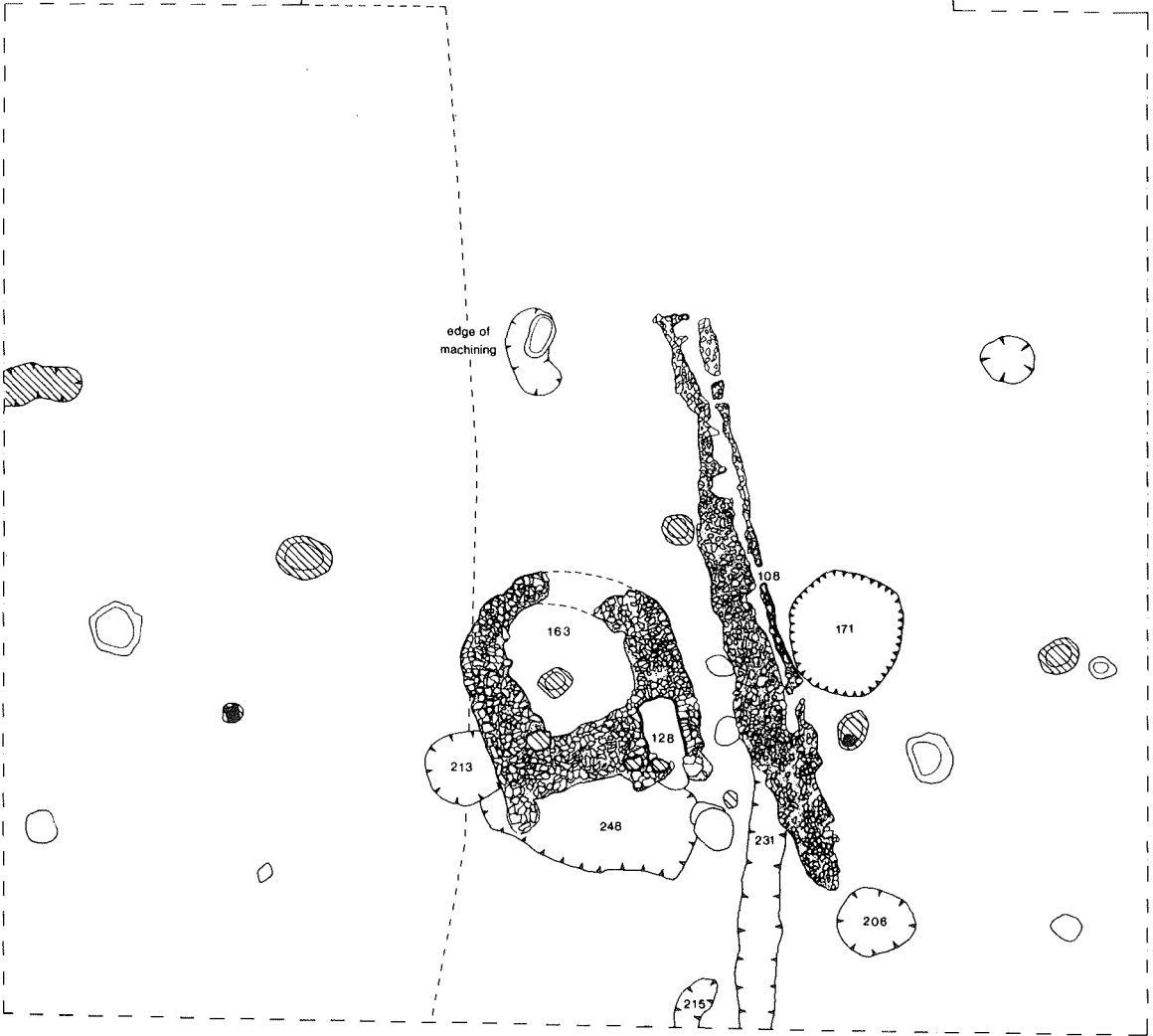


Fig. 6. Walton Lodge, medieval features.

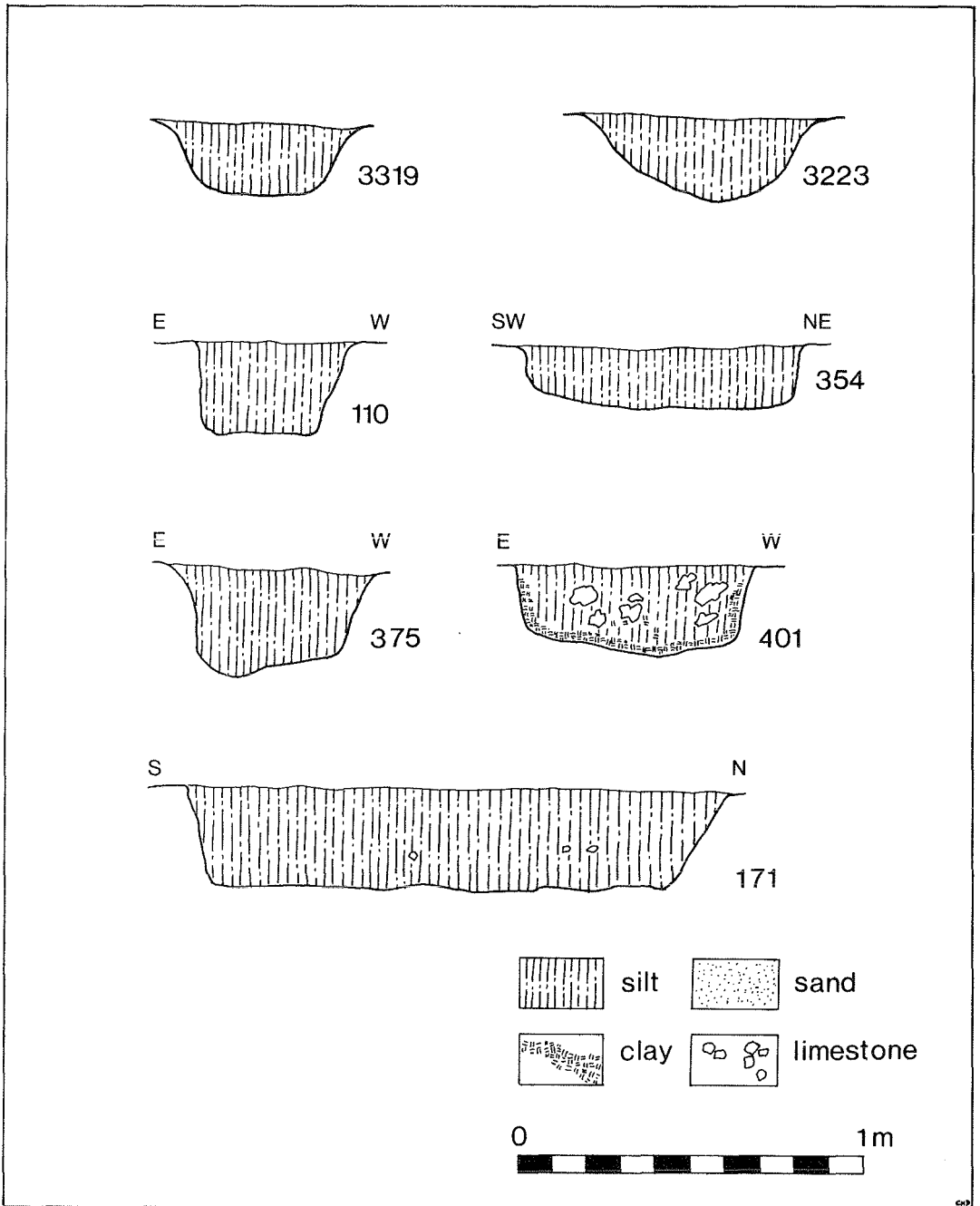


Fig. 7. Walton Lodge, sections of Saxon and medieval features (1:20).

and surface treatment (burnished, wiped, fingered or untreated). As the pottery was so fragmentary, form could only be assessed on the basis of rim type (for which an internal series was devised), base type (flat, sagging, footing etc.), and handle type (rod or strap). Rim diameters were noted where possible, and an internal series was devised for decorative motifs, recording where on the pot the decoration occurred. Full details are retained in the site archive.

The Prehistoric Pottery (Figs. 8 & 9)

A total of 8,387 sherds of prehistoric pottery

were found (weight 33kg). Of these, 1,376 sherds (weight 4.9kg), which were in grog-tempered (P8, P16) or sand-tempered (P19) fabrics, were identified as Iron Age. Of this Iron Age pottery, 771 sherds were residual in later contexts, while the remainder came from the 'dark soil' deposit discussed above. No certain Iron Age features were identified. The dark soil layer also contained 3,217 sherds of Bronze Age pottery (46% of the Bronze Age pottery), while only 231 sherds came from Bronze Age features. All the pottery was fragmentary and very little was decorated.

Table 3. The prehistoric pottery, by fabric.

<i>Fabric Group by temper</i>	<i>Fabric Code</i>	<i>Common Name</i>	<i>No.</i>	<i>Percentage</i>	<i>Weight (g)</i>	<i>Percentage</i>
Flint	P1	Flint-tempered ware	2797	33.3	11319	34.0
	P2	Fine flint-tempered ware	1031	12.3	2520	7.6
	P9	Unclassified flint	363	4.3	1105	3.3
Total flint-tempered			4191	50.0	14944	45.0
Flint-and-shell	P6	Flint-and-shell tempered ware	294	3.5	12.78	3.9
	P7	Fine flint-and-shell tempered ware	31	0.4	113	0.3
Total flint-and-shell-tempered			325	3.9	1400	4.2
Calcareous	P10	Shelly limestone-tempered-ware	1249	14.9	7320	22.1
	P11	Fine shelly-limestone-tempered ware	252	3.0	732	2.2
	P12	Prehistoric shelly ware	942	11.2	3574	10.8
Total calcareous-tempered			2443	29.1	11626	35.1
Total flint and/or calcareous tempered			6959		27970	
Bronze Age Grog	P14	Bronze Age Grog-tempered ware	33	0.4	110	0.3
	P15	Bronze Age grog-and flint-tempered ware	19	0.2	125	0.4
Total Bronze Age grog-tempered			52	0.6	235	0.7
Iron Age Grog	P8	Iron Age grog-tempered ware	1026	12.2	3492	10.5
	P16	Iron Age grog-and flint-tempered ware	314	3.7	1318	4.0
Total Iron Age grog-tempered			1340	15.9	4810	14.5
Sandy	P19	Sandy ware	36	0.4	95	0.3
Overall Totals			8387		33110	

The Fabrics

A total of thirteen different prehistoric fabrics were found on the site (coded P1, P2, P6–12, P14–16 and P19). For the reasons discussed below three of these were identified as Iron Age. The relative percentages of all these fabrics by number and by weight are shown in Table 3, and all are described in detail in the site archive.

Of the ten Bronze Age fabrics the majority were flint-tempered, comprising 50% of all prehistoric pottery by number and 45% by weight. Fabric P9, of which there were 363 sherds, was represented by flint-tempered sherds too fragmentary to be assigned to either fabric P1 or P2, so that although it is included in the table above, it is not discussed as a separate fabric. The flint fabric group is, therefore, divided into two fabrics: P1 with coarse flint inclusions and fabric P2 with finer flint inclusions.

The second major fabric group had calcareous inclusions, either fossiliferous limestone (P10 and P11) or crushed shell (P12). These fabrics comprised of 29% of the sherds by number and 35% by weight. A further 4% of the pottery was flint-and-shell-tempered. This fabric group was divided into coarse (P6) and finer (P7) wares. These three fabric groups (flint, calcareous and flint-and-shell) account for 83% of the prehistoric pottery from the site and all but two of the sherds from the Bronze Age features. Flint fabrics are also found locally on Iron Age sites, for example 38% of the Middle Iron Age pottery from George Street (Aylesbury) was flint-tempered (Allen and Dalwood 1983, 14–15). These fabrics are dated to the Bronze Age here, however, on the basis of the associated rim forms and decorative motifs.

The remaining fabrics identified as Bronze Age were grog-tempered, of which there were fifty-two sherds (0.6% of the total number). These were subdivided into coarse grog (P16) and coarse grog with flint (P15). All sherds in this group had oxidised outer surfaces (fired light brown or red) and reduced inner surfaces and cores (fired dark grey to black), a

characteristic of the Late Neolithic and Early Bronze Age pottery. Both fabrics are dated to the Early Bronze Age owing to the presence of Beaker style comb and cord impressed decoration on some of the sherds (Fig. 8:1–4).

Only thirty-six sherds of sand-gritted pottery (fabric P19) were recovered (0.4% by number). This was tentatively identified as an Iron Age fabric because of its similarity to other local Iron Age fabrics (Allen and Dalwood 1983), and because the group included a handle of Iron Age form. The other two Iron Age fabrics (P8 and P16) were respectively grog-tempered and grog-and-flint-tempered. These were much finer than the Bronze Age fabrics P14 and P15 and did not have the same distinctive colouring, resembling instead the Late Iron Age group II grog-tempered pottery from Bierton (Knight 1986, 17–30).

Manufacture

With the exception of sherds in fabrics P8 and P16, all the pottery was hand-made. Amongst the Iron Age fabrics (P8 and P16) 343 sherds were identified as wheel-made, representing 25% of the pottery in these fabrics. However, the fragmentary nature of the pottery increased the difficulty of distinguishing between wheel-made and wheel-finished pottery, and it is possible that some of these were in fact hand-made. The types of surface treatment evident were: burnished, wiped smooth, fingered and untreated (Table 4).

As can be seen from Table 4 the main variations in surface treatment were between coarse and fine wares rather than between the fabric groups. Over 50% of the flint fabric P1, for example, was either untreated or only fingered, and none of this pottery was burnished. In contrast 76% of the fine flint fabric (P2) was wiped smooth and a small percentage was burnished (0.8%). The Iron Age grog-tempered fabrics (P8 and P16) generally had a high level of surface finish with over 70% being wiped smooth.

It was hoped that during the study precise manufacturing techniques could be identified, but the fragmentary nature of the pottery made

Table 4. Surface treatment, by fabric, by percentage.

<i>Fabric Group</i>	<i>Fabric Code</i>	<i>Description</i>	<i>Burnished</i>	<i>Wiped</i>	<i>Fingered</i>	<i>Untreated</i>
Flint	P1	Flint		46	18.0	36
	P2	Fine flint	0.8	76	8.0	15
Flint and shell	P6	Flint and shell		54	24.0	22
	P7	Fine flint and shell	3.0	78	3.0	16
Calcareous	P10	Shelly limestone		56	10.0	34
	P11	Fine shelly limestone	0.4	76	6.3	17
	P12	Shelly	0.4	59	16.6	24
Bronze Age grog	P14	Grog		64		36
	P15	Grog and flint		53		47
Iron Age grog	P8	Grog	0.8	71	14.0	14
	P16	Grog and flint		77	10.0	13
Sandy	P19	Sandy		44		56

this impossible. Only six sherds showed evidence of coil building, and these divided equally between fabrics P1, P3 and P10. Only one sherd, in fabric P10 showed evidence of slab building.

Form

As none of the prehistoric pottery had reconstructable profiles, identification of form depended on the 324 rims. A number of these were themselves very fragmentary, making it impossible to estimate the original angle or diameter with any confidence. Of the 254 rims of Bronze Age pottery, the majority were simple upright forms with flattened or gently rounded tops, the former being typical of Middle Bronze Age assemblages (Ellison, *pers. comm.*). There were also some rims from necked vessels and some small fine rims thought to belong to 'cups'. There did not appear to be any inturning rims and none could be identified as belonging to bowls. The body sherds were also very fragmentary, but where larger sherds survived they indicated straight-sided Bucket Urns.

Upright rims were found in all fabrics, although they seemed to be more common in the coarser fabrics (P1, P6 and P10) and fabrics P7 (fine flint and shell) and P12 (calcareous). Necked vessels were also found in a number of fabrics, but were more common in the flint fabrics (P1 and P2) and the coarser shelly limes-

tone fabric (P10), while the cups were mainly in the fine fabrics (P2, P11, P12). No rims were found in fabrics P15 and P19, and only one in fabric P14.

Where it was possible to estimate the rim diameters, they ranged from about 160mm to 220 mm, with the finer fabrics P2 and P11 tending to be at the lower end of the range, the coarser fabric P1 (flint) towards the upper end of the range, calcareous fabric (P12) towards the middle. The rims in the other fabrics were evenly distributed across the range.

The thickness of every sherd was recorded, to determine whether there was any correlation between this and the fabric. Comparing coarser and finer fabrics, sherds in calcareous fabric P10 tended to be thicker than those in the finer version, fabric P11, the former mostly ranging from 7mm to 11mm and the latter from 6mm to 8mm. The distinction was less apparent when comparing the coarser flint (P1) and flint-and-shell (P6) fabrics with their finer equivalents (P2 and P7 respectively). The Bronze Age grog fabrics (P14 and P15) tended to be thicker, ranging from 7mm to 12mm, although the small quantity of pottery in these fabrics makes it impossible to draw any firm conclusions from this.

There were 58 bases, 51 of which were in Bronze Age fabrics and 7 in Iron Age fabrics.

The majority of both Bronze Age and Iron Age bases were flat, with only one sagging base in Iron Age fabric P16 and P18 in Bronze Age fabrics. No flat bases were found in the finer fabrics P2 and P11 or in grog fabric P8, and there were no bases in fabric P7.

A total of 70 rims in the Iron Age grog fabrics (P8 and P16) were present, the majority from jars, although some were upright. There were four inturning rims, probably from bowls, and a few very fine rims from cups. There was also one rod handle, made in the sandy fabric (Fig. 9:29).

Decorative Techniques

A total of 126 sherds of prehistoric pottery were decorated, (1.5% of total pottery). Of

these, 87 sherds were in Bronze Age fabrics and 40 in Iron Age grog fabrics. A total of 16 categories of decoration were noted (Table 5), including sherds with perforations and lugs which may have had a practical rather than a decorative function. Each category is illustrated in Figs. 8 and 9.

Where fabric groups have been divided into coarser and finer wares the percentage of decorated sherds is higher in the coarser wares. In the flint fabric group, for example, 1% of the coarser flint fabric (P1) is decorated, compared to 0.6% in the finer fabric P2. The fabric with by far the highest percentage of decorated sherds was the coarse grog fabric, P14 (27%) but as this comprised only 33 sherds the figure is not statistically significant.

Table 5. Decorative techniques by fabric (P7 and P15 not decorated).

	<i>Flint</i>			<i>Flint and Shell</i> P6	<i>Calcareous</i>			<i>Bronze Age Grog</i> P14	<i>Iron Age Grog</i>		<i>Iron Age Sandy</i> P19
	P1	P2	P9		P10	P11	P12		P8	P16	
<i>Cordon-Fingering:</i>											
With finger nail	2	-	-	-	3	1	1	-	-	-	-
With finger tip	4	-	-	-	3	-	1	-	-	-	-
<i>Fingering:</i>											
With finger nail	5	1	1	-	3	-	2	-	4	1	-
With finger tip	3	1	1	1	-	-	-	-	1	-	1
Pinched rim	-	-	-	-	-	-	1	-	-	-	-
<i>Combing</i>	-	-	-	-	1	-	-	5	11	-	-
<i>Slashing:</i>											
Diagonal	5	-	2	-	-	-	2	-	-	-	-
Vertical	1	-	-	-	1	-	-	-	-	-	-
Cross	-	-	-	-	-	-	1	-	-	-	-
<i>Stabbing</i>	1	-	-	1	2	-	1	-	-	-	-
<i>Perforations:</i>											
Complete	3	-	-	1	-	1	-	-	1	-	-
Incomplete	-	1	1	1	2	-	2	-	-	-	-
<i>Incised Grooves:</i>											
Single	3	2	-	-	4	-	1	-	6	-	-
Multiple	2	1	-	-	-	1	1	2	9	-	-
<i>Cord Imprint</i>	-	-	-	-	-	-	-	2	5	-	-
<i>Lug</i>	-	-	-	1	-	-	1	-	-	-	-
Total Decorated	29	6	5	5	19	3	14	9	38	1	1
% Decorated	1	0.6	1.4	1.7	1.5	1.2	1.5	27	3.7	0.3	2.8

Considering first the Bronze Age fabrics, the main decorative motif was finger impressed in rows, using either finger nails or finger tips (Fig. 8:5–9). It was used on cordons (applied on straight sides, or occasionally on shoulders) around the tops of vessel rims, or less frequently directly on to the body of the vessel. This decoration is concentrated on fabrics P1 and P10, and was found on two of the four decorated sherds from the sealed Bronze Age features. Also common was slashing (found on the remaining two sherds from the sealed Bronze Age features) and single or multiple incised grooves (Fig. 8:12–13) the former being mostly used on rims and the latter on bodies of the pots. These were found both on flint- and calcareous-tempered sherds, with multiple incised grooves also occurring on fabric P14. Other techniques which appeared less frequently were stabbing, found on the coarser fabrics (P1, P6, P10) and calcareous fabric P12; combed lines on fabric P10; and comb on grog fabric P14 (Fig. 8:3). Cord imprints were found on fabric P14, and finger-pinched rims only on fabric P12. Other features which may have been decorative or functional were lugs, found on fabrics P6 and P12; and perforations, some complete and some incomplete.

With the exception of one sherd, all the decorated Iron Age pottery was made in fabric P8 (grog) and the decoration consisted of combed or incised grooves. There was some fingertipping and cord imprinting, one sherd with rouletted decoration and one perforated sherd.

Dating

The precise dating of the Bronze Age pottery from Walton Lodge is problematic. Much of the pottery (3217 out of 7011 sherds) came from the 'dark soil' layers. There are no radiocarbon dates for the dated Bronze Age features and no recently excavated local Bronze Age assemblages to compare the pottery with. Finally, the pottery itself was very fragmentary and less than 2% was decorated, limiting the use of decoration and form as dating factors. However, the information that could be extracted regarding form, decoration and manufacture, provided enough evidence to suggest a general chronology for the pottery

and thus the main periods of Bronze Age activity on the site.

Five sherds with comb decoration and two with cord imprints (all in P14) were identified as Beaker pottery (Ellison *pers. comm.*). All the sherds in fabric P14, and sherds in the closely related coarse flint-and-grog fabric (P15), were dated to the Early Bronze Age. All of this pottery was residual and its presence in such small quantities (52 sherds) suggests that the excavated area could only have been peripheral to the main focus of Early Bronze Age settlement.

Pottery in the Deverel–Rimbury tradition was identified by the presence of decorated sherds with applied cordons, finger impressions and lugs. The rims and larger body-sherds suggested that these were from straight-sided bucket urns. Most of the pottery (83%) had flint and/or calcareous temper. Such fabrics are typical of Middle Bronze Age assemblages in the Upper Thames basin (Ellison *pers. comm.*) and it seems likely, therefore, that this large assemblage of pottery indicates a Middle Bronze Age settlement site, an hypothesis which the pottery from the sealed Bronze Age features seems to confirm.

Although there is a high percentage of undecorated sherds in the assemblage, the absence of bowls makes it unlikely that any of these represent plain ware of the post-Deverel–Rimbury tradition. Barrett (1976) listed two 'plain ware' assemblages in the Chilterns, at Puddlehill and Ivinghoe Beacon. Their absence at Walton Lodge might suggest that the excavated area was not in use at this period.

There was very little Late Bronze Age/Early Iron Age pottery of the type found at the Prebendal Grounds site, Aylesbury (Farley forthcoming). A number of fine rims were identified as Late Bronze Age/Early Iron Age cups, similar to Barrett's class V (Barrett 1976, 303), and a number of sherds were identified as having Late Bronze Age/Early Iron Age decorative features including incised lines, cordons on shoulders and necked rims with 'cabling' formed by closely spaced finger impressions

(Ellison *pers. comm.*). The latter two are features of Barrett's class I jars (*ibid.*), which are characteristic of Late Bronze Age/Early Iron Age assemblages. The decorated class IV bowls that were the second most numerous element in this tradition, however, are entirely absent at Walton Lodge. There were only fifteen burnished sherds amongst the Bronze Age fabrics, and no sherds with haematite slip.

Sand gritted pottery in the Vale of Aylesbury is a characteristic both of Middle Iron Age assemblages, for example at George Street, Aylesbury (Allen and Dalwood 1985, 14–15), and Late Iron Age assemblages, for example Berton (Knight 1986, 17–30). Very few sand-tempered sherds were found at Walton Lodge and there was no decoration comparable to the George Street pottery. As the two other Iron Age fabrics present (P8 and P16) were both grog-tempered, and the decoration, consisting mainly of combed or incised lines, is characteristic of Late Iron Age pottery, a later Iron Age date seems more likely here. However, none of the finer Aylesford-Swarling forms were evident, and only 25% of the pottery in these fabrics was wheel-made.

In summary, the external evidence for pottery dating suggests that the main period of prehistoric activity in the area excavated at Walton Lodge was during the second millennium BC, in what is conventionally the Middle Bronze Age. There is only scant evidence for earlier Bronze Age and Late Bronze Age/Early Iron Age activity and a little more for Late Iron Age activity some time in the first century BC.

Discussion

Despite the disturbed and fragmentary nature of the Bronze Age deposits, and consequent absence of precise dating evidence, this assemblage contributes some new information to assist in the study of Bronze Age settlement.

The site is a new addition to the distribution pattern of Deverel–Rimbury sites and is of particular interest as it is on the northern periphery of the main distribution area. Some evidence of a Middle Bronze Age presence in

the local area was noted during the last century when a cremation burial was found at Berton in a bucket urn, dated pre-1000 BC (Allen 1986, 4) but with no evidence for contemporary settlement. In addition Ann Ellison noted in her thesis (Ellison 1975), as further evidence for Middle Bronze Age activity in Buckinghamshire, finds of Deverel–Rimbury pottery at Bledlow (Head 1946, 313), Princes Risborough (Scott 1954, pl. LXXV, 3) and Stokenchurch (Head 1955, 61), and further west at Port Meadow, Standlake, Stanton Harcourt and Yarnton (Ellison 1975).

The Deverel–Rimbury assemblage from Walton Lodge is of further interest because of its affinities with East Anglian assemblages evident in some of the decorative motifs (Ellison *pers. comm.*). Perforations below the rim were found on five sherds in Bronze Age fabrics. These are not common in the Upper Thames (*ibid.*) but are present at a number of East Anglian sites, including Mildenhall Fen, Hockwold, Snettisham and Grimes Graves (Ellison 1975). Finger-tip decoration and diagonal strokes on top of rims are also common in East Anglia, i.e. at Needham, Leiston and Mildenhall Fen, as is the use of decorative knobs, i.e. at Hockwold and Mildenhall Fen (*ibid.*).

Catalogue of the Prehistoric Pottery

The Early Bronze Age Pottery (Fig. 8:1–4)

1. Decorated bodysherd with raised cordon and cord-impressed decoration, burnished. Fabric P14, oxidised ext, 5YR 5/4 reddish brown, with a reduced int and core, 2.5Y 2/0 black. (SF1118, fill 415, part of the 'dark soil' layer).
2. Decorated upright rim sherd with combed horizontal and diagonal lines, burnished. Fabric P14, oxidised int and ext, 7.5YR 6/6 reddish yellow, with a reduced int margin 7.5YR 3/0 very dark grey. Diameter impossible to estimate. (SF1053, fill 103).
3. Decorated bodysherd with two lines of rectangular combed decoration. Fabric P14, oxidised ext surface and margin 7.5YR 5/4 browb, reduced int surface and margin, 7.5YR 3/0 very dark grey. (SF1656, fill 122, Saxon posthole 123).
4. Decorated rim with horizontal lines of cord-impressed decoration ext and on an int bevel. Fabric P14, oxidised ext, 7.5YR 5/4 brown, reduced int margin and surface 7.5YR 3/0 very dark grey. Diameter approximately 80mm. (SF1206, fill 414, part of the 'dark soil' layer).

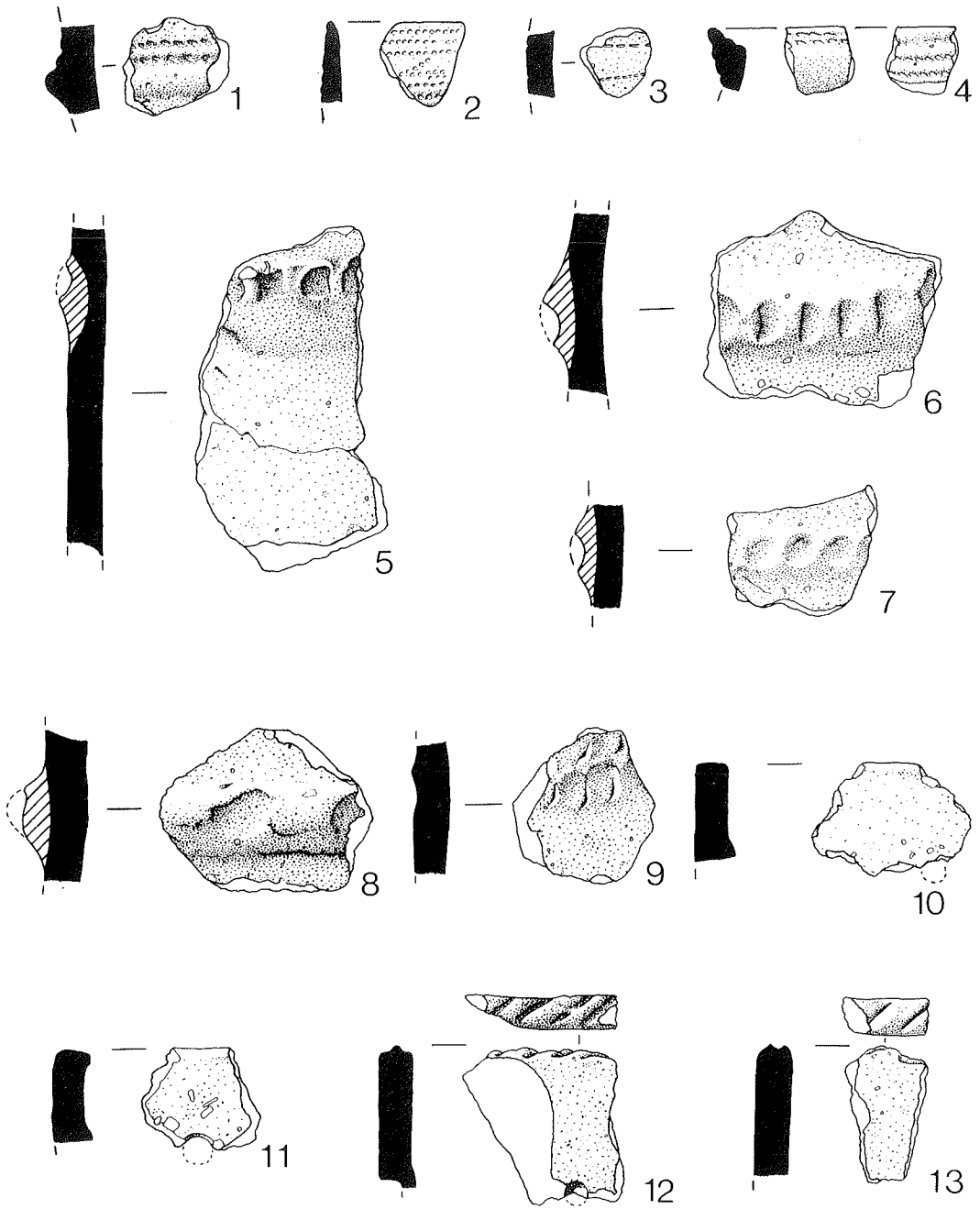


Fig. 8. Walton Lodge, prehistoric pottery: 1-4, Early Bronze Age; 5-13, Middle Bronze Age (1:2).

The Middle Bronze Age Pottery

(Fig. 8:5–13; Fig. 9:14–21)

5. Decorated bodysherd from Bucket urn, with fingernail and stabbed decoration (the latter using a stick or bone) on an applied cordon. Fabric P1, oxidised throughout, ext and int surfaces 10YR 6/3 pale brown, core 5YR 5/6 yellowish red. (SF1056, fill 170, from medieval pit 171).
6. Decorated bodysherd from bucket urn with impressed fingernail decoration on an applied cordon. Fabric P12, patchily fired with oxidised patches, 10YR 6/4 light yellowish brown, and reduced patches 10YR 5/1 grey. (SF1096, fill 304, Saxon pit 305).
7. Decorated body sherd from bucket urn with impressed finger-tip decoration on an applied cordon. Fabric P1, reduced 5Y 2.5/2 black, with oxidised patches 7.5YR 5/4 brown. (SF1124, fill 146, part of the 'dark soil' layer).
8. Decorated body sherd from bucket urn with impressed finger-tip decoration on an applied cordon. Fabric P10, with oxidised surfaces 10YR 6/3 pale brown and reduced core 7.5YR 3/0 very dark grey. (SF1131, fill 666, from Bronze Age stake hole 666).
9. Decorated body sherd with impressed fingernail decoration. Fabric P1, oxidised throughout 10YR 6/4 light yellowish brown. (SF1121, fill 414, part of the 'dark soil' layer).
10. Upright rim sherd, flat-topped with perforation below rim. Fabric P1, oxidised 10YR 6/4 light yellowish brown with reduced patches, 5Y 5/1 grey. Diameter impossible to estimate. (SF1253, fill 413, part of the 'dark soil' layer).
11. Upright rim sherd, flat-topped rim with oblique slashes, perforated below the rim. Fabric P12, core and ext surface oxidised, 10YR 6/2 light yellowish brown, int surface reduced 2.5Y 6/2 light brownish grey. Diameter approximately 280mm. (SF1238, fill 170, from medieval pit 171).
13. Decorated upright rim sherd, flat-topped with oblique slashes. Fabric P12, reduced throughout, surfaces 10YR 4/2, dark greyish brown, core 10YR 3/1 very dark grey. Diameter impossible to estimate. (SF1182, fill 406).
14. Decorated upright rim sherd with impressed fingernail decoration. Fabric P10, oxidised throughout, 10YR 5/3 brown, with sooting externally. Diameter impossible to estimate. (SF1140, fill 625, part of the 'dark soil' layer).
15. Decorated upright rim sherd with impressed fingernail decoration. Fabric P10, oxidised surfaces 7.5YR 5/4 brown, with patches and core 10YR 4/2 dark greyish brown. Diameter impossible to estimate. (SF 1254, fill 414, part of the 'dark soil' layer).
16. Decorated upright rim with finger pinching. Fabric P12, reduced throughout 10YR 4/1 dark grey. Diameter impossible to estimate. (SF 1186, fill 339, part of the 'dark soil' layer).
17. Decorated upright rim, flat-topped with vertical and oblique slashes. Fabric P10, reduced throughout,

10YR 4/1 dark grey. Diameter impossible to estimate. (SF 1172, layer 337).

18. Decorated bodysherd with applied lug. Fabric P10, oxidised surfaces, 10YR 5/3 brown, with reduced core 2.5YR 3/0 very dark grey. (SF1141, fill 625, part of the 'dark soil' layer).
19. Upright rim with incomplete perforations. Fabric P10, fired 10YR 5/2 greyish brown throughout. Diameter approximately 180mm. (SF 1143, layer 394).
20. Decorated upright rim with fingertip impressions. Fabric P1, oxidised surfaces 7.5YR 5/4 brown and reduced core 2.5YR 4/0 dark grey. Diameter impossible to estimate. (SF 1246, unstratified).
21. Flat base with grooves. Fabric P10, oxidised ext, 7.5YR 5/4 brown with reduced int surface and core 2.5YR 4/0 dark grey. The calcareous material has been leached out on the inside of the vessel. Diameter impossible to estimate. (SF 1071, fill 164).

The Late Bronze Age/Early Iron Age Pottery (Fig. 9:22–7).

22. Everted rim of necked vessel, with closely spaced impressed fingernail decoration. Fabric P16 oxidised externally 10YR 6/4 light yellowish brown, reduced int and core 7.5YR 3/0 very dark grey. Diameter impossible to estimate. (SF 1166, fill 281, part of the 'dark soil' layer).
23. Rim, flat-topped upright rim of small 'cup', burnished ext. Fabric P2, reduced throughout, 4.5YR 4/1 dark grey. Diameter impossible to estimate. (SF 1232, Saxon layer 3129).
24. Rim, fine rounded rim of small 'cup'. Fabric P12 reduced throughout, 5Y 4/1 dark grey. Diameter approximately 80mm. (SF 1162, fill 281, part of the 'dark soil' layer).
25. Rim of small cup with int bevel. Fabric P2, oxidised surfaces and reduced core. Diameter impossible to estimate. (Fill 281, part of the 'dark soil' layer 277).
26. Rim with internal bevel and impressed fingernail. Fabric P1, oxidised surfaces 5YR yellowish red, and reduced core 7.5YR 3/0 very dark. Diameter approximately 100mm. (SF 1188, fill 341, part of the 'dark soil' layer).
27. Decorated bodysherd, shoulder of vessel with applied cordon, impressed finger tip decoration. Fabric P1, reduced ext and core 7.5YR 6/0 grey, and oxidised int surface, 10YR 6/3 pale brown. (SF 1058, fill 161 of medieval gully).

The Iron Age Pottery (Fig. 9:28–9)

28. Bodysherd with combed decoration. Fabric P8 patchily fired, reduced throughout 5Y 5/1 grey, with oxidised patches on the ext surface 7.5YR 6/6 reddish yellow. (SF 1150, Saxon layer 3129).
29. Rod handle. Fabric P19, fired 10YR 4/1 dark grey ext, core 5YR 5/4 reddish brown. (SF 1274, fill 280, part of the 'dark soil' layer).

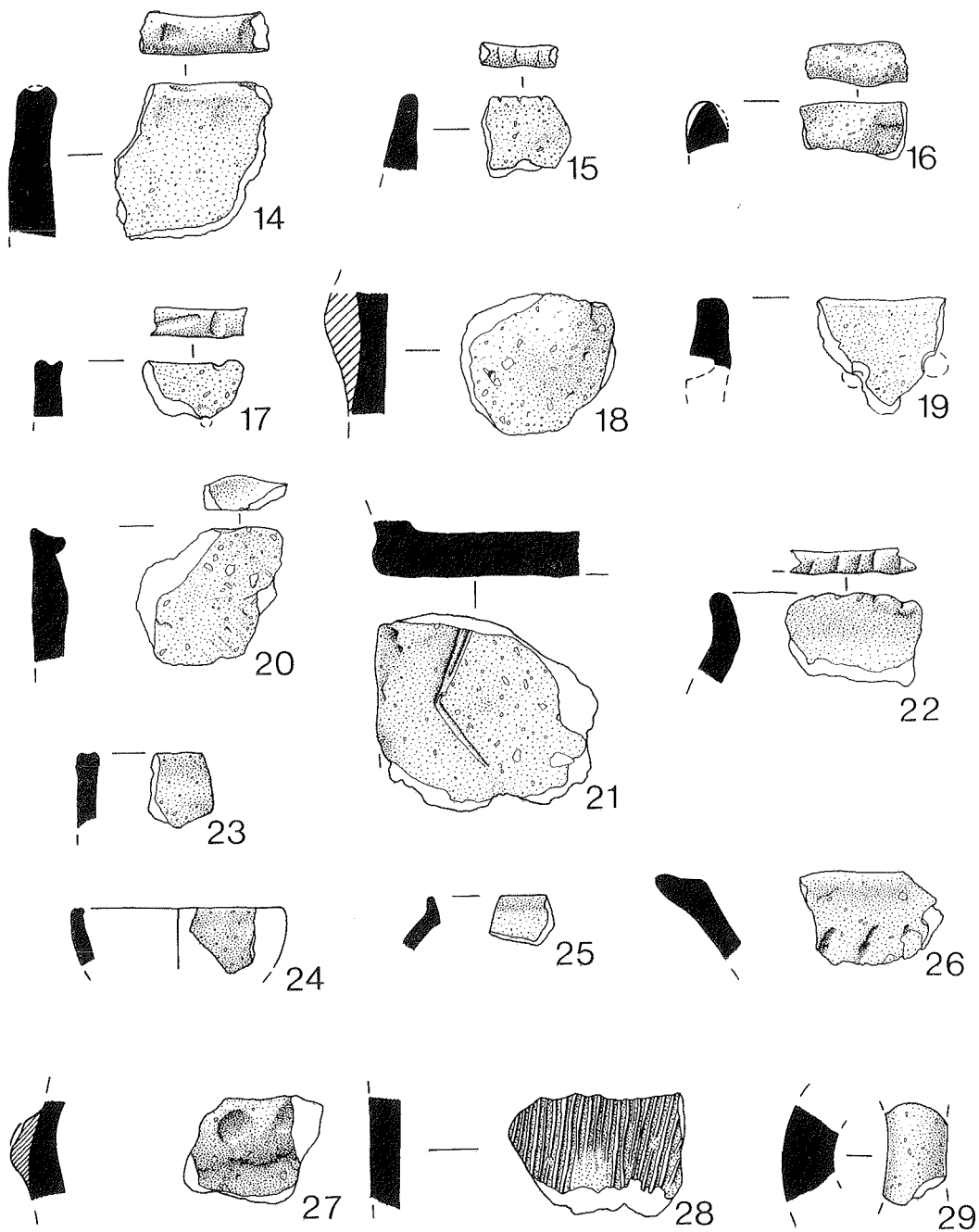


Fig. 9. Walton Lodge, prehistoric pottery: 14-21, Middle Bronze Age; 22-7, Late Bronze Age/Early Iron Age; 28-9, Late Iron Age (1:2).

The Roman Pottery
by Stephen Benfield

A total of 408 sherds of Roman pottery were found (weight 1.1kg) comprising mostly small body sherds from jars in grey fabric, with some tempered fabrics also present. Pottery of the whole Roman period was present, from sherds of later Iron Age affinity to the later fourth century. All were residual, and no Roman features were recorded on site.

Two samian sherds from plain vessels of unrecognisable form are products of the later South Gaulish and Central Gaulish industries, the latter probably from Lezoux. There is also one rim of a Black Burnished Ware flanged dish (BB1) of third-century date.

Products of the Oxford kilns from the later third to fourth centuries dominated the fine ware present, with red and brown colour coat, white colour coat and white ware. Recognisable forms included Young (1977) types C45 (shallow bowls), C100, M22 (*mortaria*) and WC75 (*mortaria*). All date to the later third to

fourth century except type C100 which is of fourth-century date.

The Saxon Pottery

A total of 1022 fragmentary sherds of Saxon pottery were recovered (weight 6.98kg). Of these, 712 sherds (70%) were residual in later contexts. The aim was to establish a local fabric series as well as to date the Saxon occupation of the site, so all 1022 sherds were studied in detail, as described above.

Fabrics

Twelve Saxon fabrics were initially identified, some of which were combined leaving the ten fabrics whose relative quantities are shown in Table 6. The pottery was quantified by both number and weight. As organic-tempered pottery is by nature lighter than other wares, however, quantification by weight is misleading and therefore only quantities by number will be referred to henceforth. Detailed fabric description and petrological reports are recorded in the archive report.

Table 6. The Saxon Pottery by fabric.

<i>Fabric Group by temper</i>	<i>Fabric Code</i>	<i>Common Name</i>	<i>No.</i>	<i>Percentage</i>	<i>Weight (g)</i>	<i>Percentage</i>
Quartz	S1	Saxon Red Quartz-tempered ware	123	12.0	630	9.0
Quartz	S4	Fine Early Saxon	15	1.47	75	1.1
Quartz	S5	Fine Early Saxon	4	0.39	8	0.11
Quartz	S6	Saxon Quartz/Flint-tempered ware	41	4.01	368	5.28
Total Quartz			183	17.9	1081	15.49
Chaff	S8	Organic-tempered ware	523	51.5	2612	37.4
Chaff	S11	Organic/Quartz-tempered ware	72	7.04	455	6.52
Chaff	S12	Quartz/Organic-tempered ware	179	17.51	1136	16.28
Total Organic			773	75.6	4203	60.2
	S2	Ipswich Ware	3	0.29	26	0.38
	S3	Saxon Sandstone-tempered ware	27	2.64	1517	22.5
Shelly	S7	St Neots type ware	36	3.52	100	1.43
Total Miscellaneous			66	6.45	1697	24.31
Overall Totals			1022		6990	

The largest fabric group was organic-tempered, comprising 75.6% of all Saxon pottery and divided into three fabrics with varying degrees of quartz temper. Analysis of the pottery from excavations at Walton Vicarage suggested that organic-tempered wares became more common with the passage of time, while quartz-tempered wares decreased (Farley 1976, 168). Such a high proportion of organic-tempered pottery at Walton Lodge therefore seems to indicate a date later than the early Saxon occupation at Walton Vicarage.

The second largest fabric group was quartz-tempered, comprising four fabrics that represented about 18% of the Saxon pottery. Of these only about 5% belonged to the fine Early Saxon fabrics that formed one of the two main fabric groups at Walton Vicarage (*ibid.*). It should be noted that as all the organic-tempered fabrics contained quartz in varying degrees, and it was felt that the presence of organic temper was a diagnostic dating factor, even fabric S12, predominantly quartz but containing organic temper, was included in the organic fabric group.

There were 36 sherds of St Neots-type shelly ware, representing only 3.5% of the total pottery and a further two fabrics dated to the Middle Saxon period both represented by very small quantities. These comprised three sherds of Ipswich ware, thought to date from approximately the mid seventh century to the mid ninth century (Hurst 1976, 301-3) and 'Saxon sandstone-gritted ware', represented by one pot (Fig. 10:37) and thought to be a 'local Ipswich-type ware' (Vince *pers. comm.*).

Manufacture

The fragmentary nature of the assemblage precluded detailed study of manufacturing techniques so that, for example, no clear evidence of coil-building was seen. With regard to surface treatment, 70% of the pottery was wiped smooth making this the most common type. Only 7% of the pottery was burnished, 14% had finger impressions, and the remaining 9% was untreated. The relative percentages of various surface treatments within each of the fabric groups are shown in Table 7. Although the number of sherds within each group varied greatly, the percentages still give some indication of the degree of finish of pottery within the group.

In the quartz fabric group the fine early Saxon wares S4 and S5, which were all distinctively burnished, were separated for the purpose of these calculations. The remaining quartz-tempered and organic-tempered fabrics covered the whole range of surface finishes, with a high percentage of wiped sherds but low percentages of burnished sherds, and increased percentages of coarser fingered or untreated sherds. The three remaining groups, S2, S3 and S7, the Middle and late Saxon wares, were all wiped smooth. The level of surface finish in these, however, probably reflected improved manufacturing processes such as wheel-finishing rather than the importance accorded to the vessel's exterior surface.

Form

As the pottery was generally fragmentary and mostly hand-made (often crudely) the identification of vessel forms was difficult.

Table 7. Surface treatment by fabric.

Fabric Group	Fabric Code	Percentage Burnished	Percentage wiped	Percentage Fingered	Percentage Untreated
Quartz	S4, S5	31.6	68.4	-	5.0
Quartz	S1, S6	8.5	74.0	12	10.6
Organic Temper	S8, S11, S12	6.6	67.0	16	-
Ipswich Ware	S2	-	100.0	-	-
Sandstone Grittied Ware	S3	-	100.0	-	-
St Neots Shell	S7	-	100.0	-	-

There was only one reconstructable pot (Fig. 10:38) the rim of which was missing. As there was no evidence for this having been used as a cook pot it is thought more likely to have been a storage vessel.

Identification of forms therefore concentrated on the S4 rim sherds in the assemblage. As at Walton Vicarage (Farley 1976, 191) the majority of these appeared to be simple stubby forms, either upright or everted. In most cases it was impossible to estimate their original diameter and frequently even the true angle of the rim was difficult to determine. For these reasons very few of the S4 rim sherds are illustrated (Fig. 11). Two rims (Fig. 10:36-7) had upright pierced lugs, generally a feature of Middle Saxon pottery.

The rims within each fabric were studied to see if there was any correlation between fabric and form. There were only a few rims in the datable Middle Saxon fabrics (S2 and S3) and only one tiny rim sherd in St Neots-type ware (S7). In both the quartz-tempered and organic-tempered fabrics (37 and 16 rims respectively), there were equal proportions of everted and upright rims, the only exception being two flat-topped rims with external flanges (fabric S1; Fig. 11:47).

There were only five bases in the Saxon pottery assemblage, one of which is illustrated (Fig. 11:52). All were fragmentary, but appeared to be flat rather than sagging.

Four sherds of organic-tempered pottery (fabric S9), were tested for madder dye staining in the hope that this would provide evidence for dyeing processes on the site. The results, however, were negative and it was suggested that a reddish discolouration was more likely the result of oxidation of iron in the clay during firing (P. Walton *pers. comm.*).

Decoration

Only seven decorated sherds of Saxon pottery were found, all fragmentary; three had incised or combed grooves and four were stamped. Three stamped sherds and one grooved sherd came from the 'dark soil' layer,

one grooved sherd came from a Saxon posthole (351), and the remaining two sherds were sidual in later contexts. Six are illustrated (Fig. 10:30-5) and described in the catalogue.

As with the Early Saxon pottery from Walton Vicarage (Farley 1976, 1968) the stamps are all contained within borders of incised grooves. As can be seen from Table 8 the percentage of decorated sherds in organic-tempered fabrics is very low, the fine Early Saxon wares having by far the highest percentage of decorated sherds. Note that in this Table the quartz-tempered fabric group has again been subdivided to separate the fine Early Saxon ware.

Dating and Discussion

Middle Saxon domestic pottery is notoriously difficult to date. However, various evidence is interpreted here as indicative of a Middle Saxon date for most of the pottery assemblages at Walton Lodge: firstly, the presence or absence of certain datable fabrics; and secondly, the relative proportions of the fabric groups present. Negative evidence was provided by the low proportion of stamp-decorated sherds in the assemblage (four), such ware being common locally during the Early Saxon period. Positive evidence was provided by the presence of datable Middle Saxon pottery in the form of Ipswich ware, together with perforated lugs which may be of Middle Saxon date (Hurst 1976, 301). Datable Late Saxon pottery is poorly represented; St Neots-type ware, common in the south Midlands in the tenth century (Hurst 1955) formed only 3.5% of the assemblage. This suggests that use of the site became less intense during the Late Saxon period.

At Walton Vicarage it was suggested that the proportion of organic-tempered over quartz-tempered wares, as found in House 4 and 5, was indicative of a late sixth to seventh-century date (Farley 1976, 168), and such pottery is comparable with the Walton Lodge assemblage. At Pennylands (north Buckinghamshire) the relative abundance of organic-tempering was seen to increase in later contexts (Denham 1985, 53), and at Barrow Hills, (Ox-

Table 8. Decorative techniques, by fabric.

Fabric Group	Fabric	Incised Grooves		Stamps		Total %
		No.	%	No.	%	
Quartz: Red Quartz Gritted	S1	1	0.8	1	0.8	1.6
Quartz: Fine Early Saxon Ware	S4	0	—	1	6.7	10.5
	S5	0	—	1	35.0	—
Organic-tempered	S8	1	0.2	1(?)	0.2	0.4
	S12	1	0.5	—	—	—

fordshire), it has been suggested that the presence of organic-tempered fabrics indicates a post-seventh-century date (S. Raven *pers. comm.*).

The pottery from all sealed Saxon features at Walton Lodge was either predominantly or entirely organic-tempered. Taking this and the other factors into account, a late sixth to eighth-century date seems most likely for the main period of Saxon occupation.

It has already been noted that very few sherds of datable Middle Saxon pottery were found on the site, the identification of this as a Middle Saxon assemblage being based largely on negative evidence. There was also little evidence for forms, which seem to consist mainly of plain domestic wares such as cooking pots and storage vessels. It may be that this is the clue to the identification of other Middle Saxon assemblages in the area, and that the absence of readily identifiable Middle Saxon fabrics and forms in other assemblages has led to the conclusion that no Middle Saxon pottery was present.

Evidence for the local origin of the assemblage was provided by the petrology (Diane Robson and Anne Woods, *Archive Report*), although the precise place of manufacture cannot yet be identified (Vince *pers. comm.*). The limestone fragments in some fabrics are likely to be of local origin, and the silty micaceous clay body of all the Saxon fabrics (except St Neots-type ware and Ipswich ware) is probably derived from the local Gault Clays (*ibid.*).

The Middle Saxon pottery from Chicheley, Buckinghamshire, dated to the eighth or ninth centuries (Farley 1980, 91–104) is quite distinct from the pottery at Walton Lodge, having strong affinities with the pottery at Maxey, Northants, 40 miles to its north east. This supports the argument for the localised nature of Middle Saxon pottery in the area. The Middle Saxon fabric S3, however, although locally made, was only represented by one vessel on the site, suggesting that it had a more limited or specialised function. If this is so then it may be that such datable Middle Saxon wares will be represented in small numbers in other Middle Saxon assemblages, and that plain domestic wares are the typical Middle Saxon form.

Catalogue of the Saxon Pottery

Decorated Saxon Pottery (Fig. 10:30–5)

30. Row of stamped open-ended circular crosses, Briscoe type A 4ai (Briscoe 1981, 5), set between grooves (cf. Farley 1976, Fig. 13:1–2). Burnished ext and int. Ext and int fired 7.5YR 2/0 black, core 5Y 2.5/1 black. Fabric S4. (SF 1093, layer 282, part of 'dark soil' deposit).
31. Stamped rosette motif, Briscoe type A 5a, (Briscoe 1981, 5) with five irregular segments bordered by multiple grooves. Burnished ext. Ext and int fired 2.5YR 2/0 black, core 5Y 2.5/1 black. Fabric S5. (Layer 285, part of 'dark soil' deposit).
32. Row of simple stamped dot impressions bordered by multiple grooves. Possibly Briscoe type A 1a (*ibid.*) but with only one surviving stamp it is impossible to say for certain if the stamp is intended to be round, square or diamond shaped. Burnished ext. Ext 2.5Y 3/0 very dark grey, interior 2.5y 4/0 dark grey, core 10YR 3/2 very dark greyish brown. Fabric S1 (cf. Farley 1976, Fig. 200:1). (SF 1159, layer 282, part of 'dark soil' deposit).

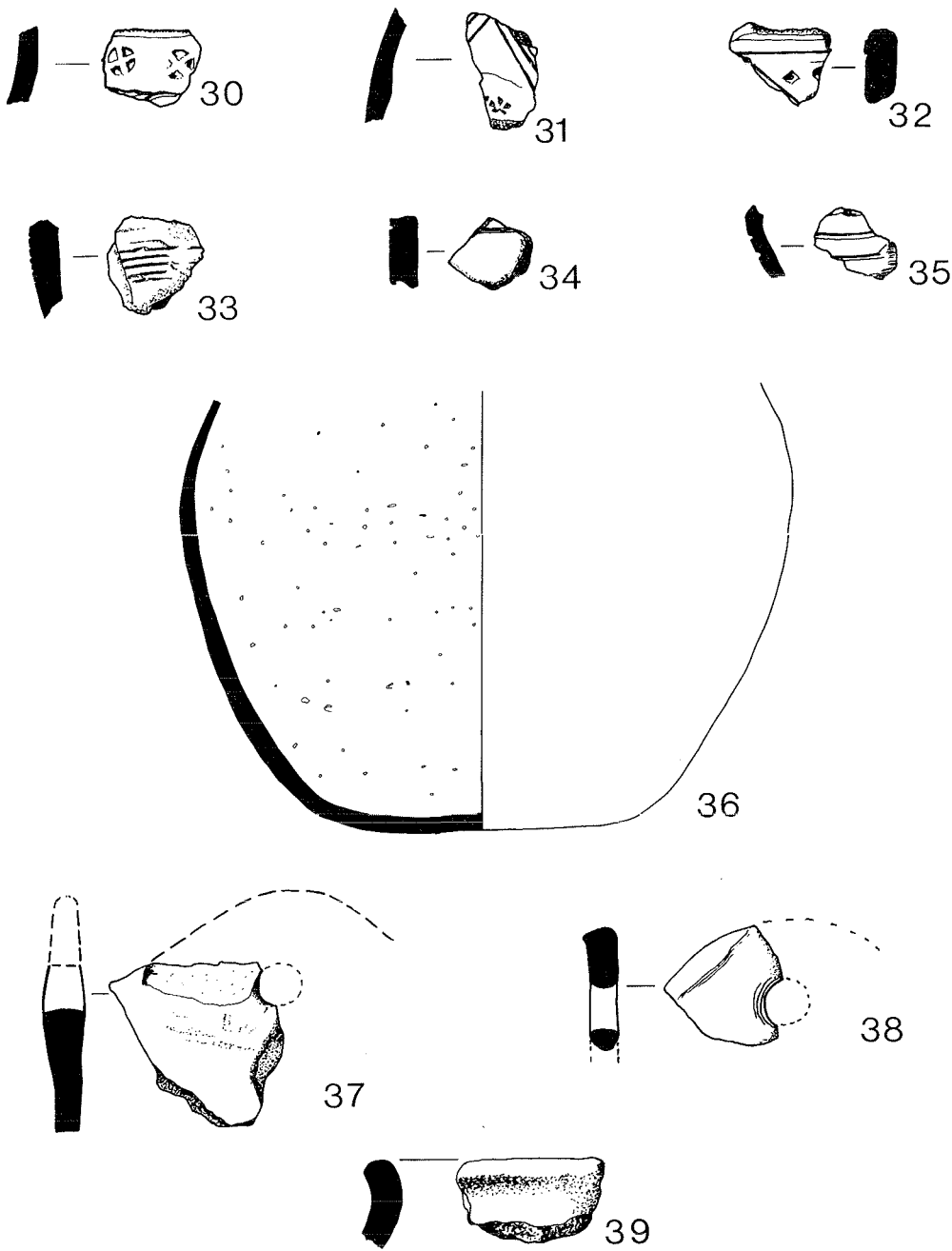


Fig. 10. Walton Lodge, Saxon pottery (1:2 except 36, 1:4).

33. Combed bodysherd. Ext and int 2.5YR 3/0 very dark grey, core 5Y 3/1 very dark grey. Fabric S1. (SF 1214, layer 3226, part of 'dark soil' deposit).
34. Bodysherd with single groove. Burnished ext. Ext 7.5YR 5/4 brown, int 7.5YR 3/0 very dark grey, core 5Y 2.5/1 black. Fabric S12. (SF 1278, fill 254).
35. Bodysherd with multiple grooves above carination. Wiped smooth ext. Ext and int 7.5YR 3/0 very dark grey, core 5Y 4/1 dark grey. Fabric S8. (SF 1261, fill 352, posthole 351).

Undecorated Saxon Pottery (Fig. 10:36–9; Fig. 11:40–52)

All sherds are rims unless otherwise stated.

36. Perforated lug. Ext 2.5YR 5/2 greyish brown, int 5Y 5/1 grey, core 7.5YR 5/4 brown. Fabric S12. (SF 1146, unstratified).
37. Perforated lug, burnished ext. Ext, int and core 10YR 3/1 very dark grey. Fabric S1. (SF 1287, fill 221).
38. Pot, with no signs of use and therefore most likely used for storage, most of the profile with slightly sagging base, burnished/wiped smooth ext. Fired 7.5YR 6/4 light brown to 10YR 4/1 dark grey int and core. Fabric S3 (unstratified). Residual in fills 103 and 100 (topsoil).
39. Simple everted, fabric S12. Diameter impossible to estimate. Fired 7.5YR 3/0 very dark grey ext and int, core 5YR 3/1 very dark grey. (Layer 285, part of 'dark soil' deposit).
40. Simple upright, fabric S12. Diameter 140mm. Fired 7.5YR 3/0 very dark grey throughout. (Layer 103).
41. Flat topped with ext flange, fabric S11. Diameter impossible to estimate. Fired 7.5YR 3/0 very dark grey throughout. (Layer 282, part of 'dark soil' deposit).
42. Simple everted, fabric S4. ? Diameter. The sherd has ext and int burnishing. Fired 7.5YR 3/0 very dark grey throughout. (Layer 344, part of 'dark soil' deposit).
43. Simple upright, fabric S6. Diameter 120mm. Fired 7.5YR 3/0 very dark grey throughout. (Layer 341, part of 'dark soil' deposit).
44. Simple upright, burnished ext, fabric S6. ? Diameter. Fired 7.5YR 3/0 very dark grey throughout. (Layer 282, part of 'dark soil' deposit).
46. Simple everted, fabric S6. Diameter 160mm. Fired 7.5YR 3/0 very dark grey throughout. (Medieval layer 221).
47. Flat topped with ext flange, fabric S1. ? Diameter. Fired 10YR 3/1 very dark grey throughout. (Medieval layer 221).
48. Simple everted, crudely made in fabric S11. ? Diameter. Fired 7.5YR 3/0 very dark grey throughout. (Layer 282, part of 'dark soil' deposit).
49. Simple everted, made in fabric S12. ? Diameter. Fired 7.5YR 3/0 very dark grey throughout. (Fill 176, Saxon posthole 177).
50. Simple everted, fabric S8. ? Diameter. Patchily fired from 7.5YR 6/4 light brown to 10YR 4/1 dark grey surfaces, core 10YR 4/1 dark grey. (Fill 3132, Saxon gully 3133).
51. Simple upright, fabric S8. ? Diameter. Fired 10YR 3/1 very dark grey throughout. (Saxon layer 208).

52. Flat base, fabric S1. ? Diameter. Patchily fired from 10YR 6/2 light brownish grey to 7.5YR 4/0 dark grey. (Fill 481, Bronze Age stakehole 482).

The Medieval Pottery

A total of 1,210 sherds of medieval pottery were recovered (weight 7.5kg) representing 11% of the pottery from the site. Of these, 1.161 came from post-medieval layers (contexts 100 and 999), only 258 sherds coming from sealed contexts. None of the medieval pottery is illustrated.

The Fabrics

As the quantity of medieval pottery was relatively small, the percentage of residual material high, and the pottery generally fragmentary, no attempt was made to identify the individual fabrics and only the pottery from sealed contexts was looked at in detail. Almost all of the pottery was coarse ware, most of which was sand and quartz-tempered with very little shelly ware present (Table 9).

Table 9. Medieval pottery from sealed contexts.

	<i>Sherds</i>	<i>Percentage</i>
Coarse Wares: Shell	37	14.0
Sand/quartz	216	84.0
Flint	2	0.7
	—	—
Total Coarse Wares	255	98.8
Tripod Pitcher Ware	2	0.7
Brill/Boarstall Ware	1	0.4
Total	258	

Manufacture and Form

No attempt was made to identify hand-made and wheel-made sherds as the pottery was too fragmentary. There were no reconstructable vessels and, from the medieval contexts, very few rims. Two simple upright rims in shelly fabrics were found, similar to examples from eleventh and twelfth-century features at Walton Teachers' Centre (see below), while the rims in sandy fabrics had external flanges.

As can be seen in Table 9, virtually no stratified sherds of glazed Brill/Boarstall ware were found. From the topsoil (context 100) came the bridge spout of a jug, similar to one found in a pit at George Street and dated to

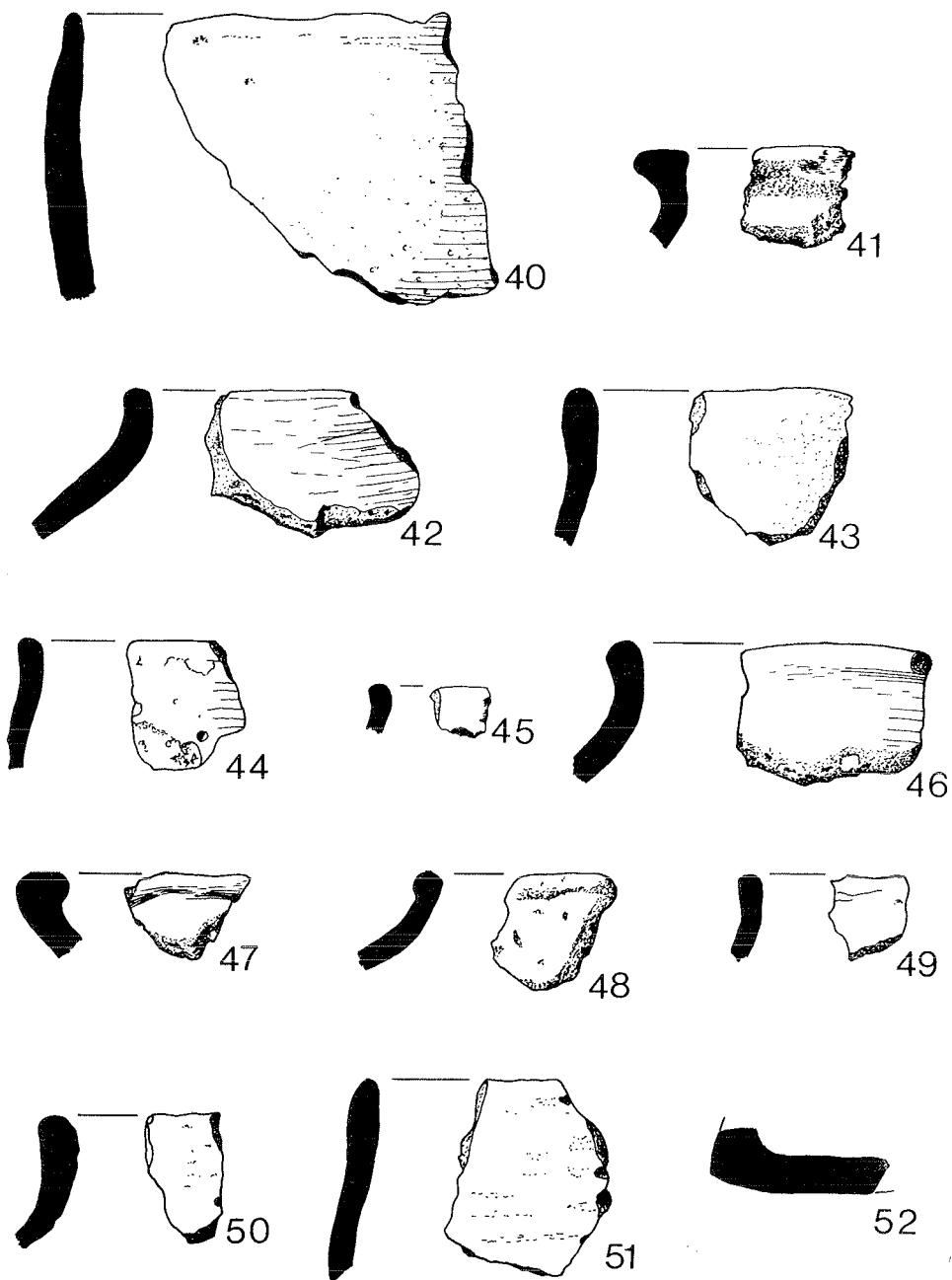


Fig. 11. Walton Lodge, Saxon pottery (1:2).

the late thirteenth century (Yeoman 1983, 22, fig. 13.1). Other Brill/Boarstall wares from this context were the rod handle of a jug with stabbed decoration, and applied iron-stained strips on the body; and the rim of a jug with a detached face pad just below the external flange. About 99% of the pottery, however, represented coarser wares, mainly cookpots and bowls.

Decoration

There was very little decorated pottery: only one sherd from medieval contexts had combing and, from other contexts, two had applied thumb strips.

Dating

The high percentage of sand-gritted wares, in contrast with the low percentage of Brill/Boarstall on the one hand and of eleventh century shelly wares on the other, suggest a date in the twelfth century for the sealed contexts, comparable to the later pottery from George Street phase I occupation (*ibid.*). The residual medieval pottery, which was studied briefly, seemed to confirm this date.

The Post-Medieval Pottery.

Only 92 sherds of post-medieval pottery were found, representing less than 1% of all the pottery. Of these, 56 came from one glazed red earthenware jar found in the topsoil and there were no early post-medieval groups.

The Other Artefacts by Jane Evans

Other artefacts present on the site apart from pottery included objects of stone, fired clay, copper alloy, iron, bone and antler, which are discussed by material below. All illustrated finds are described in detail in the catalogue.

Stone Artefacts

An assemblage of worked flints were recovered together with a further 24 fragments of worked stone comprising rotary and saddle quern fragments, 1 rubbing stone, 3 hones, 2 shale armlet fragments and a slate pencil.

Flint

by Jane Evans and Hal Dalwood

A total of 1,032 pieces of cultural flint were recovered, as shown in Table 10. In addition, 126 pieces of burnt flint were found in contexts of all periods, but since flint occurs naturally on the site, this material is of little significance.

Table 10. General classification of flint assemblage.

<i>Category</i>	<i>Number</i>	<i>%</i>	<i>Weight (g)</i>	<i>%</i>
Waste flakes	946	—	5,538	—
Cores <i>sensu stricto</i>	3	—	184	—
Flaked lumps	56	—	1,187	—
Total waste	1,005	97	6,909	92
Flake tools	26	—	—	—
Core tools	1	—	—	—
Total tools	27	3	626	8
Total assemblage	1,032		7,535	

The Flakes

The waste flakes were analysed in order to understand the morphology of the assemblage and to obtain evidence for its date range.

Table 11. Condition of flint flake assemblage.

<i>Category</i>	<i>Number</i>	<i>%</i>	<i>No.</i>	
			<i>complete</i>	<i>%</i>
Flakes from dated				
Bronze Age contexts	396	42	343	87
Flakes from post-				
Bronze Age contexts	551	58	341	62
Totals	947		684	

The completeness of the waste flake assemblage was assessed (Table 11). A high percentage of flakes from dated Bronze Age contexts were complete (87%), whereas the percentage from post-Bronze Age contexts was rather lower (62%), which must indicate attrition of flakes as they were redeposited in later contexts. It is possible that the low percentage of 'blades' even in Bronze Age contexts (nine pieces, 1.5% of complete flakes, (Table 12), is due to similar attrition which also occurs in the assemblage of Bronze Age Pottery (see above) and animal bone (see below). The complete waste flake assemblage (684 pieces) was metrically analysed and breadth:length indices were calculated (Table 12). The majority of these flakes were unpatinated opaque grey or brown

to dark brown flint, the raw material of which was probably the rather small flint nodules that occur in fields surrounding Aylesbury. A small number of pieces (158 items, 15%) were white patinated (see below).

The Cores and Flaked Lumps

Only three cores were recovered: two single-platform cores (class A), and one two-platform core (class B2). All are white patinated, small, and carefully worked, showing small blade scars, which is not consistent with the flake assemblage. A total of 56 flaked lumps were also recovered, of which three were white-patinated.

Dating the Waste Flake Assemblage

It seems possible that the cores represent a pre-Bronze Age element in the flint assemblage, and the presence of a distinctive pale grey to white patina was regarded as potentially chronologically diagnostic. The waste flake assemblage included 158 similarly patinated flakes (15% of the assemblage), of which 84 (12% of the assemblage) were complete. Similarly patinated flint was found at the Walton Vicarage site and dated to the Neolithic/Early Bronze Age period (Farley 1976, 160–1, fig. 162). The complete flake assemblage was broken down into white patinated and non-patinated classes and the percentages compared to average percentages for waste flakes of different periods (Table 12).

A number of conclusions can be drawn from the analysis presented in Table 12:

1. The white-patinated assemblage is a significantly different population, distinct from the rest of the analysed assemblage. It is tempting to date this assemblage as earlier, to the Late Neolithic or Early Bronze Age period. This is the suggested date of the Walton Vicarage material, where stone axe fragments and pottery support a Neolithic date (Farley 1976, 160–2); the Early Bronze Age pottery from Walton Lodge may support an Early Bronze Age date for the white-patinated assemblage.
2. The unpatinated assemblage (600 flakes) may be of later date, on the basis of comparison with Pitt's collated data; however no reliable conclusion can be drawn from this. The evidence of pottery and other finds suggests that this assemblage is of Middle Bronze Age (Deverel–Rimbury) date. It is noteworthy that the distribution of the assemblage is unlike the sampled Middle Bronze Age assemblage from Grimes Graves Shaft X (Herne forthcoming).

The Tools (Fig. 12)

A total of 27 tools were identified (Table 13) but the abraded condition of the assemblage meant that only retouched pieces could confidently be classified as tools, and no unretouched utilised pieces were identified, although these undoubtedly exist within the assemblage. The percentage of retouched tools within the assemblage (3%) is comparable to other Middle Bronze Age sites. The tools showed a predominance of scrapers and re-

Table 12. Percentages of flakes by breadth:length class compared to average percentages by period (after Pitts 1978).

	<i>Breadth:Length Classes</i>					<i>Mean b:l ratio</i>
	<0.2	0.2–0.4	0.4–0.6	0.6–0.8	0.8–1.0	
<i>Walton Lodge</i>						
All complete flakes (n = 684)	0	1.5	9.5	24	24	41.0
Non-white patinated flakes (n = 600)	0	1.5	9.0	23	25	41.5
White patinated flakes (n = 84)	0	1.0	15.5	30	18	35.5
<i>Average percentage, by period</i>						
Late Neolithic	0	4.0	21.5	29	20	25.5
Chalcolithic	0	2.5	15.0	24	24	35.0
Bronze Age	0	3.5	14.5	23	23	35.5

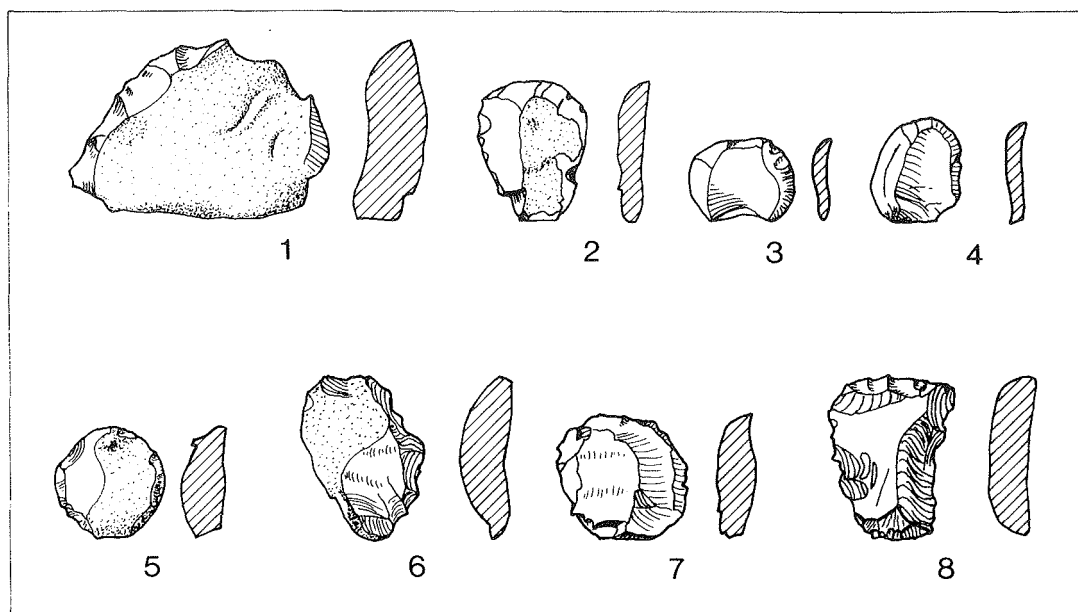


Fig. 12. Walton Lodge, flint artefacts (1:2).

lated types (Table 13) typical of contemporary Bronze Age sites, as at Thorny Down (Stone 1941, 131).

Three of the scrapers were of the small rounded type (i.e. Fig. 12:5) typical of Bronze Age sites, and the remainder comprised mostly small, crude scrapers (Fig. 12:6-8).

1. Scraper on core fragment, white patina (SF 1665, Fill 3142).
2. Scraper, white patina (SF 1676, Fill 339).
3. Scraper, white patina (SF 1084, Layer 221).
4. Scraper, partial white patina (SF 1095, Fill 337).
5. Round scraper (SF 1108, Fill 412).
6. Coarse scraper (SF 1668, Unstratified).
7. Scraper (SF 1021 Unstratified).
8. Scraper (SF 1680, Fill 867).

Although the majority of the tools are typical of Middle Bronze Age sites, four of the tools bore the white to pale grey patina described above and regarded as chronologically diagnostic: these comprise three small scrapers and one scraper on a core fragment (Fig. 12:1-4). The three flake scrapers are small and carefully made and finished, and, judged by admittedly subjective criteria, these pieces can be dated to the Early Bronze Age.

Table 13. Classification of flint tools.

<i>Flake Tools</i>	
Scrapers	17
Notched flakes (hollow scrapers)	3
Laterally retouched flakes	3
Unclassifiable retouched flakes	3
<i>Core Tools</i>	
Scrapers	1
Totals	27

Conclusions

The greater majority of the flint assemblage is unremarkable. Flint artefacts are very rare at contemporary sites, such as Shearplace Hill (Rahtz and ApSimon 1962, 323) and Knight's Farm, Burghfield (Bradley *et al.* 1980, 274), but this variation has not been explained. A small group of patinated flakes and tools appears to belong to an earlier period of occupation, and the presence of Early Bronze Age pottery on the site in small quantities supports an Early Bronze Age date for this group.

Rotary quernstones (Fig. 13:9-10)

Twelve fragments of Niedermendig lava rotary quernstones were recovered, only two of which are illustrated. Two other fragments

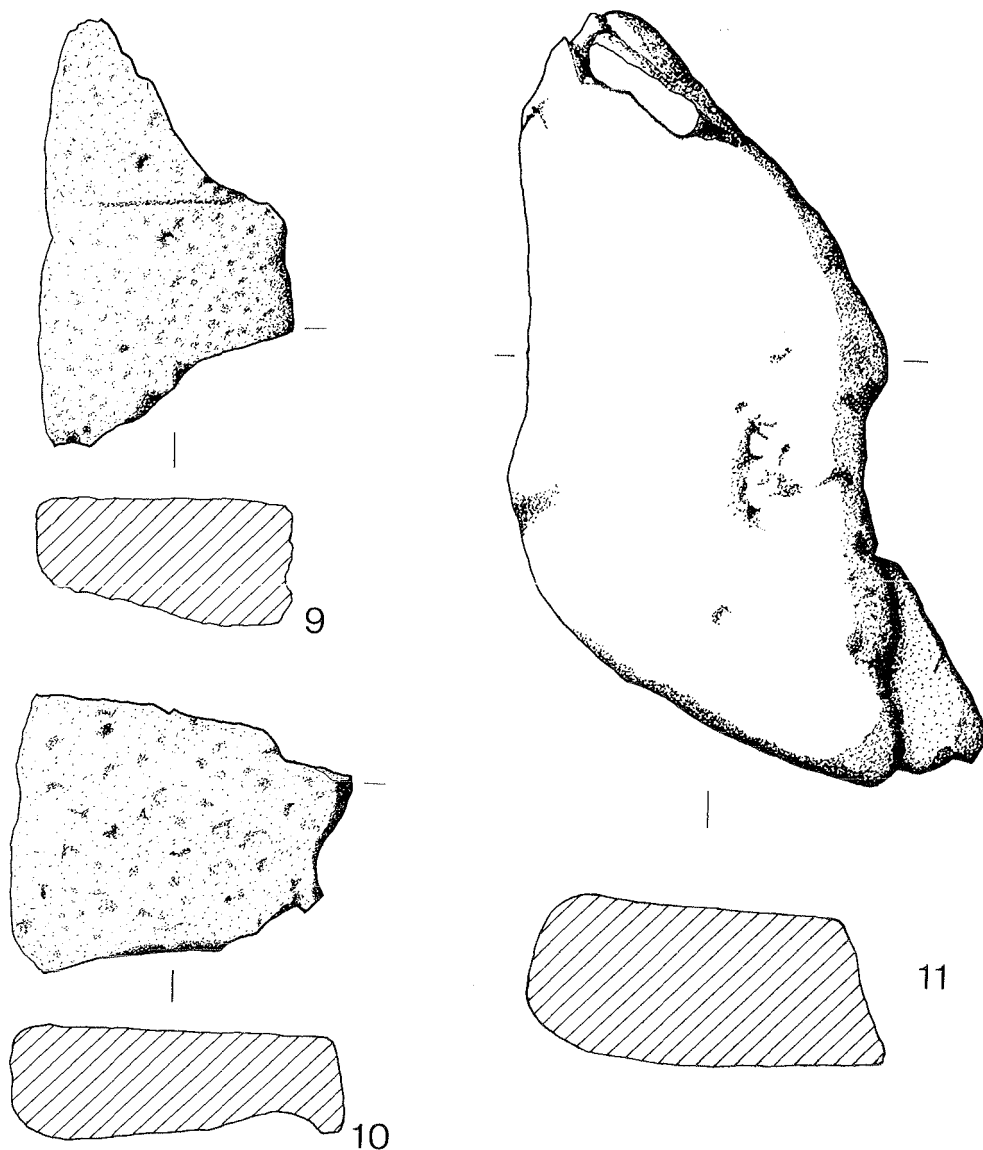


Fig. 13. Walton Lodge, stone artefacts (1:2).

came from medieval contexts while the remainder were from post-medieval contexts. Where both surfaces survived they ranged in thickness from 16mm to 34mm and showed signs of wear on one face. Although these may be of Saxon date, it is also possible that they are residual Roman artefacts; it is assumed that Roman roof tile (*tegula*) reached the site through manuring, so quern fragments could also do so.

9. Broken fragment of Niedermendig lava quernstone, ? diameter to maximum thickness 34mm. Worn smooth on one face. (SF 1016, unstratified).
10. Broken fragment of Niedermendig lava quernstone, ? diameter to maximum thickness 30mm. Worn smooth on one face. (SF 1017, unstratified).

Saddle Ouernstones (Fig. 13:11. 14-12)

Four fragments of saddle quern were found, two of which are illustrated. Of the four, two

were from Bronze Age contexts (fills 783 and 404), one from a Saxon context (359) and one from a medieval context (210).

11. Broken corner of saddle quern, maximum thickness 52mm and worn smooth on one surface. Made from Millstone grit or possibly greensand from the Weald. (SF 1113, fill 404, Bronze Age pit 405).
12. Edge fragment of saddle quern of Millstone grit, 48mm thick and worn smooth on one surface. (SF 1657, fill 359, Saxon posthole 360).

Rubbing Stone (Fig. 14:13)

13. Irregularly shaped stone, with one flat face that has been worn smooth by use. Made of the same pinkish sandstone as saddle quern fragment SF 1077 (not illustrated), probably used in conjunction with a saddlequern for grinding. (SF 1683, fill 178, Saxon posthole 182).

Hones (Fig. 14:14–16)

14. Hone, 65mm long and 12mm thick, stepping down to 6mm at one end, made of slate which is more likely of Welsh than more local origin (M. Oates, *pers. comm.*). It shows most wear down the sides where there are fine grooves cut by knife blades. (SF 1051, unstratified).
15. Early medieval hone of Norwegian schist, surviving length 50mm and maximum thickness 5mm. It has an hourglass perforation at the upper end for suspension. The only signs of wear are the possible rust stains on one side. (SF 1048, fill 150, Saxon gully 3319).
16. Hone, made of sandstone from an unknown source (M. Oates, *pers. comm.*). Trapezoidal, width 69mm (max.) to 52mm (min.), maximum thickness 24mm. Although smooth on all faces there are signs of wear down one edge and small patches of possible iron-staining. As it was unstratified it cannot be dated with certainty, although a similar hone was found at the late Bronze Age site of Black Patch (Drewett 1982, 377, fig. 34:8). (SF 1014, unstratified).

The Shale Armlets (Fig. 14:17–18)

Two fragments of shale 'armlets' were found, one from a Saxon context (fill 436) and one from a Bronze Age context. Although they do not join it is probable that they are from the same armlet. The shale is probably from Dorset but could be from local clay formations, although no local outcrops of shale are as yet known (M. Oates, *pers. comm.*). Detailed analysis of a similar shale armlet from Northampton (Dangerfield and Merriman 1974, 40) proved inconclusive in determining the precise origin of the shale, so no analysis of these was undertaken.

17. Armlet, fragment of round section with an ext diameter of c.100mm, thickness 7mm. (SF 1106, fill 436).
18. Armlet, fragment of oval section with an ext diameter c.100mm, thickness from 7mm to 8mm. (SF 1115, layer 422).

Shale armlets are typical of Middle Bronze Age sites. Large numbers were recorded with manufacturing debris at Eldon's Seat, Dorset (Cunliffe and Phillipson 1968, 225–6) but more usually they occur as single finds, as at Petter's Sports Field, Egham, Surrey (Johnson 1975, 12). They are found also in Late Bronze Age contexts, as at Runnymede Bridge, Surrey (Longley 1980, 31, fig. 18) and Iron Age contexts, as at the Ashville Trading Estate, Oxfordshire (Parrington 1978, 80–1, fig. 9:21).

Fired Clay Artefacts

A total of twelve loomweight fragments, five spindle whorls, five Roman tile fragments and sixty clay pipe fragments were found, together with 126 fragments of miscellaneous 'burnt or fired clay', 85 fragments of daub (329g) and 192 fragments of brick and tile. Of the daub, 20 pieces (85g) were from Bronze Age contexts and 23 (62g) from Saxon contexts, the remainder being from medieval or later contexts.

Loomweights (Fig. 14:19–22; Fig. 15:23).

Only five of the twelve loomweight fragments were complete enough to be illustrated. Three cylindrical or pyramidal Bronze Age weights were identified, two of which, from Bronze Age contexts, are illustrated. The remaining identifiable loomweights comprised two Saxon annular loomweights and one bun-shaped loomweight of uncertain date.

19. Fragment of Bronze Age cylindrical or pyramidal loomweight with part of the horizontal perforation still surviving, made in a coarse limestone-tempered fabric, fired 2.5Y 7/4 pale yellow throughout. The section appears to be squaring off below the perforation, suggesting the latter of these forms to be the most likely, as in examples from the Late Bronze Age site of Runnymede Bridge (Longley 1980, 31, Fig. 17:61, 62). (SF 1138, fill 964, Bronze Age stake hole 965).
20. Fragment of Bronze Age cylindrical or pyramidal loomweight with a single horizontal perforation, 7mm diam. at the narrower end. Made in a fabric with no apparent inclusions, fired approximately 10YR 6/3 pale brown throughout and with finger and organic impressions on the outer surface. (SF 1109, layer 413).

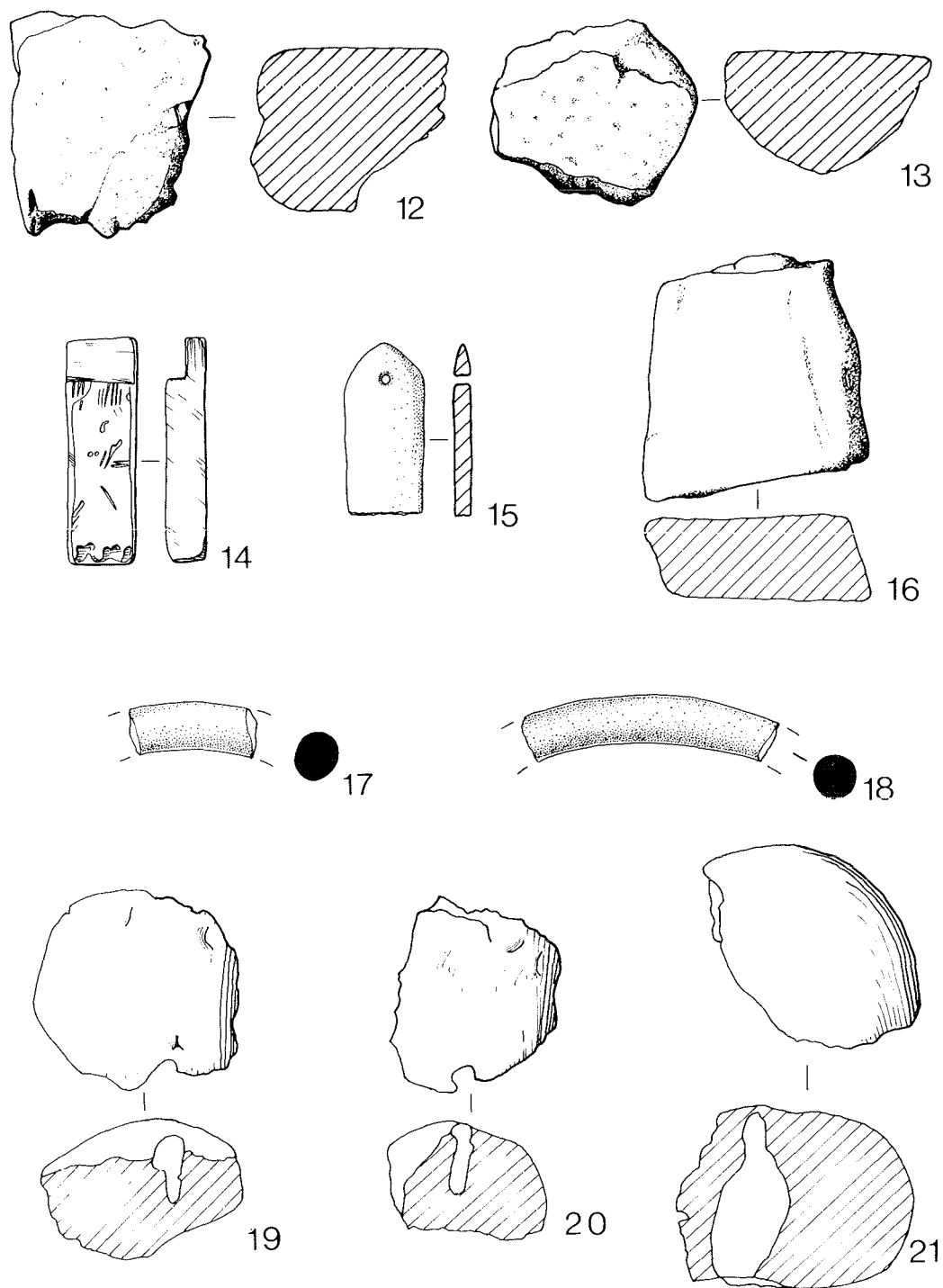


Fig. 14. Walton Lodge, artefacts: 12-18, stone; 19-21, fired clay (1:2 except 17-18, 1:1).

21. Fragment of bun-shaped loomweight (c.80mm diam. (ext) and c.20mm diam. (int)). In sandy fabric with occasional coarse inclusions, patchily fired from 10YR 5/2 greyish brown to 2.5Y 4/0 dark grey. The relatively small size of the central hole in relation to the width of the clay around it suggests that it may be a later Saxon type. At Shearplace Hill similarly shaped loomweights were found in Middle Bronze Age contents (Rahtz and ApSimon 328); similarly at Black Patch (Drewett 1982, 371-2, Fig. 34: 1-4). (SF 1026, unstratified).
22. Fragment of annular loomweight, irregularly fired to approximately 2.5Y 3/0 very dark grey throughout, with oxidised patches, and no apparent inclusions. The relatively small central hole suggests that it is an intermediate Saxon form (Hurst 1959, 24-5). (SF 1067, medieval layer 130).
23. Fragment of a crudely-formed annular loomweight with a large central hole. The outer edge is broken so that the original ext diameter is impossible to estimate. The loomweight is oxidised ext, 7.5YR 5/4 brown, and reduced int, 2.5Y 3/0 very dark grey. (SF 1076, (2) Saxon layer 207).

Spindle Whorls (Fig. 15:24-7)

A total of five spindle whorls were found, three of which were from medieval contexts (26 & 27), one from a Saxon context (25) and one whorl or bead from a Bronze Age context (24). None could be precisely dated.

24. Broken spindle whorl (or possibly bead) estimated original diameter 28mm, height 23mm. Sparse flint and shell fabric, oxidised, 10YR 6/4 (light yellowish brown) throughout. The whorl is almost biconical in shape and indented at one end, similar to a possible spindle whorl bead from the Late Bronze Age site at Runnymede (Longley 1980, 31, Fig. 17:55). As it came from the 'dark soil' deposit, it may be post-Bronze Age in date. (Layer 416, part 411, SF 1125).
25. Fragment of crudely made spindle whorl, ? diameter, height 21mm. The fabric has sparse flint and shell inclusions and is oxidised, 10YR 6/4 light yellowish brown throughout. (SF 1215, fill 3199, Saxon gully 3223).
26. Fragment of hemispherical spindle whorl, estimated ext diam. of 30mm, int diam. 10mm, height 11mm. Fine fabric with no apparent inclusions and reduced, 2.5Y 6/2 light brown grey throughout. There are regular incised grooves around the top and the bottom, indicating that it was probably lathe-turned which would suggest a post-Roman date. (SF 1006, medieval path 108).
27. Complete spindle whorl 42mm diam., height 19mm. The fabric appears to quartz-gritted with ext organic impressions. Irregularly fired and ext oxidised, 7.5YR 5/4 brown, with reduced patches 7.5YR 3/0 very dark grey. (SF 1075, medieval layer 210).

Brick and Tile (Fig. 15:28-31)

Of the 46 fragments of brick and 146 fragments of tile, only four Roman tile fragments are illustrated and described in detail. These comprised one *tegula* fragment, one *tegula* or flue-tile fragment and two box flue-tile fragments, a third box flue fragment being too incomplete for illustration.

28. *Tegula* fragment with flange and cut-away. The flange is 41mm thick and main body 24mm. The fabric is fine and hard fired and oxidised, 5YR 6/4 light reddish brown throughout. (SF 1685, unstratified).
29. *Tegula*/Flue tile, flange only, thickness 17mm, and made in a fine, hard-fired fabric, oxidised on the surface 10YR 6/4 light yellowish brown, with a reduced core 2.5Y 4/0 dark grey. Outer surface of the flange has red colour coat, 5YR 4/3 reddish brown. (SF 1659, unstratified).
30. Flue tile, fragment with knife/comb keying, thickness 15mm. Made of a fine fabric, oxidised ext, 5YR 6/6 reddish yellow, and reduced int, 5Y 4/1 dark grey. (SF 1658, unstratified).
31. Flue tile fragment, with roller-stamped keying. Thickness incomplete, made in a fine fabric oxidised 5YR 6/6 reddish yellow throughout. (SF 1662, Context 292).

Clay Pipes (Fig. 15:32)

Among the 60 clay pipe fragments found there were no reconstructable bowls and only three stamped base or spur fragments. Of the latter only one was complete enough for illustration.

32. Spur of pipe with star on either side. There are no comparable examples in the Buckinghamshire County Museum collection which have the star on both sides of the spur (L. Babb, *pers. comm.*). (SF 1663, unstratified).

Metal Objects

Copper Alloy (Fig. 16:33-5).

Only five copper alloy objects were found, including one post-medieval button and a small sheet of copper alloy post-medieval waste (not illustrated).

33. Awl/tracer, square-sectioned at one end which is separated by a well-marked shoulder from the round-sectioned, pointed end. A circular dent on one side of the shoulder is most likely the result of corrosion. The awl is 63mm long, and 5mm wide by 4mm thick at the shoulder. The square-sectioned chisel-end is 32mm long, 3.5mm wide and varies from 2mm to 4mm thick. The flaky condition of the chisel end may suggest that

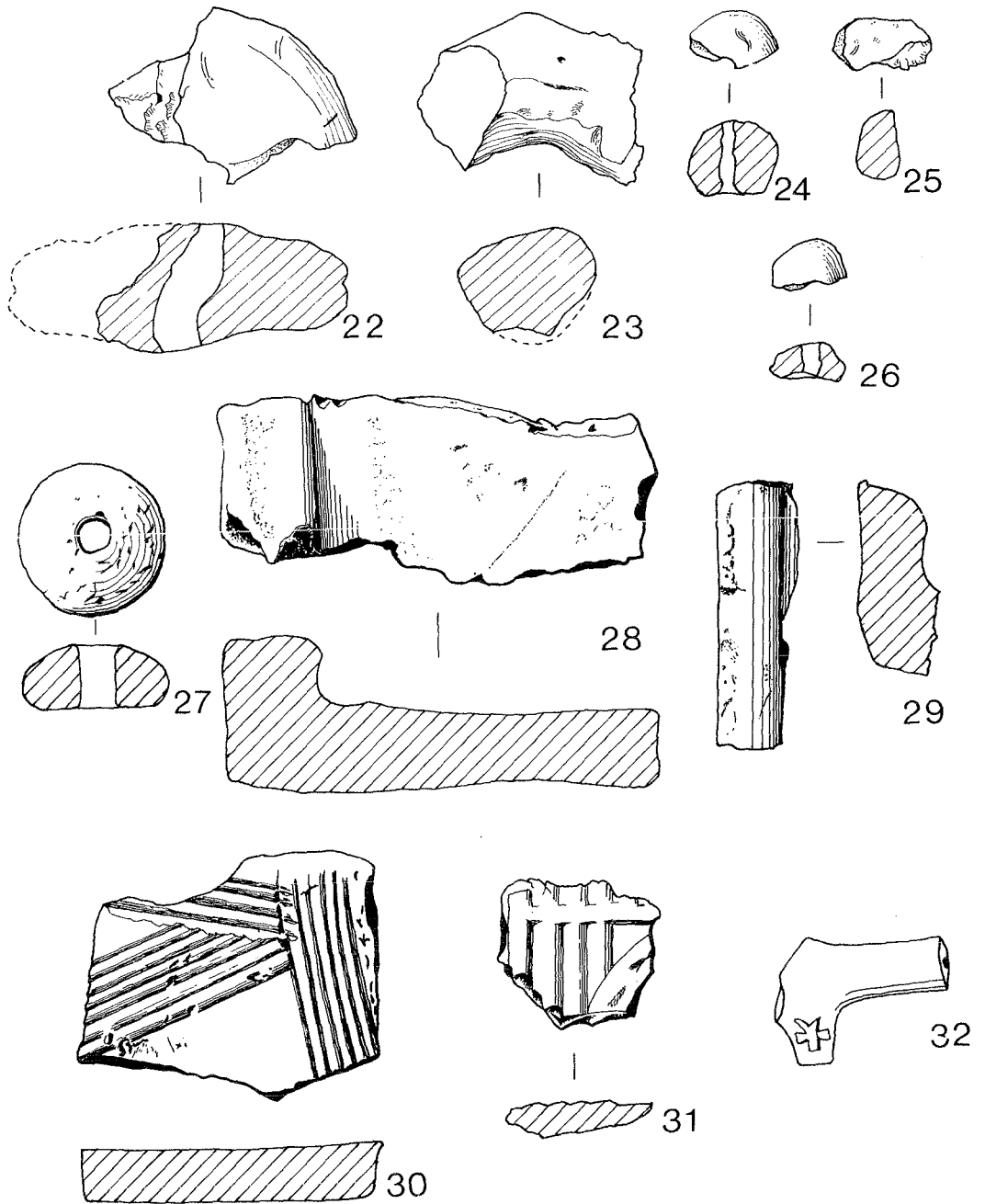


Fig. 15. Walton Lodge, artefacts: 22-7, fired clay; 28-31, tile (1:2), 32, clay pipe (1:1).

it is broken as was the case with an awl from Runnymede (Needham 1980, 13, fig. 11:4). This type of double-ended awl/tracer is a Middle Bronze Age product (Rowlands 1976, 48); there are very similar examples from the Thames at Sion Reach (*ibid.* pl. 35, no. 1170) and from Chalton, Hampshire (Cunliffe 1970, 11, Fig. 5.7). (SF 1049, medieval layer 130).

34. Tweezers: broken arm of pair of tweezers surviving to a length of 47mm. The width varies from 4.6mm at the top to 5.8mm towards the jaws, the metal becoming thinner as the width increases, maximum thickness 1.3mm. As it was found in the 'dark soil' deposit it cannot be precisely dated, but such tweezers are known from at least Late Bronze Age/Early Iron Age contexts, such as Ivinghoe Beacon (Cotton and Frere 1968, 208, fig. 11:16). In view of the Saxon *terminus ante quem* of this layer, a Saxon date for this item is possible, and a similar pair of tweezers were found at the Walton Vicarage site (Farley 1976, 216, fig. 24:5). (SF 1144, layer 3140).
35. Pin, broken, with square-sectioned shaft and head, the latter formed by a widening of the shaft. The point of the shaft is missing but the pin survives to a length of 31mm (bent). The head is 4mm by 3mm, and the shaft is 2mm by 1.8mm at its narrowest point. A number of pins were found in Late Bronze Age contexts at Runnymede (Needham 1980, 15, fig. 12:14-17). All of these, however, were round sectioned. (SF 1090, layer 284, part of the 'dark soil' deposit).

Iron

A total of 96 pieces of iron were recovered, four of which were from Saxon contexts, which were all nails (not illustrated), the rest of the iron objects coming from later contexts.

Slag

A total of 92 pieces of iron slag were recovered, which included three very small fragments from Bronze Age layers, all of which must be intrusive. Two other small fragments came from Saxon contexts.

The Bone and Antler Artefacts

One almost complete composite comb and five comb fragments were recovered from the site. The complete comb and one of the fragments were found in Saxon levels, three fragments were residual in later contexts, and one came from a Bronze Age layer (411). Although the latter could be intrusive it seems possible that it is a Bronze Age type. Composite combs are among the commonest finds on Saxon settlement sites but because types have a long life they are difficult to date precisely.

Four points or gouges were found, three of which were from Bronze Age contexts and one from a medieval context. Their precise function is unknown, with possibilities ranging from awl points to needle points and thread pickers.

Evidence for antler working in the vicinity of the site was provided by two red deer tines and a sawn-off antler beam fragment. Both of these tines were from Saxon contexts, but the beam fragment was residual in a post-medieval context. With so little evidence of red deer on the site, the antler from Walton Lodge probably represented the small scale collection of shed antler in the area. It has been suggested that tines may have been used for pegging out hides during tanning (Radley 1971, 51). Another possibility is that they were some form of wedge (McGregor 1982, 100) but it is also possible that they are simply a waste product. Evidence that antler was being worked in Saxon Walton was also found at the Walton Vicarage excavations (Farley 1976).

The Combs (Fig. 16:36-41)

36. Double-sided composite Saxon comb made of bone and antler. Undecorated, with four iron rivets, one through each of the four tooth plates, perfectly butted and between 16mm and 28mm in length. Full length 92mm, although expansion of the rivets prior to conservation resulted in slight distortion. The teeth, some of which are missing, were cut with a fine bladed saw c.0.5mm thick, similar to a previous example from Walton (Farley 1976, 208, fig. 20:1) and cut after the blanks had been riveted in place. The teeth are heavily worn, with striations running parallel to the rib of the comb which may indicate a use other than hair combing. The comb is perforated at one end for suspension, and the central rib, 71mm long and of angular section, is well polished. The comb is much smaller than Saxon combs previously found in Walton (Farley 1976, 208 and 216, fig. 25). (SF 1098, fill 358, Saxon pit 354).
37. Fragment of Saxon handled comb with multiple incised lines separating bands of chevron decoration, formed by the cutting away of small triangles of bone. The underside is flat and the upper, decorated side convex. Width incomplete, maximum thickness 8mm and broken at both ends. There are no saw marks along the edges as on the composite comb ribs. A similar example was found in Bedford (Baker 1976, 290, fig. 179:1530) in an Early to Middle Saxon structure, and a more complete example was found at the Prebendal Grounds site, Aylesbury (Farley forthcoming). It has been suggested that the earliest parallels for the decoration date towards the end of the seventh century. The same motif was found on a number of bone pieces from York, including a decorative strip

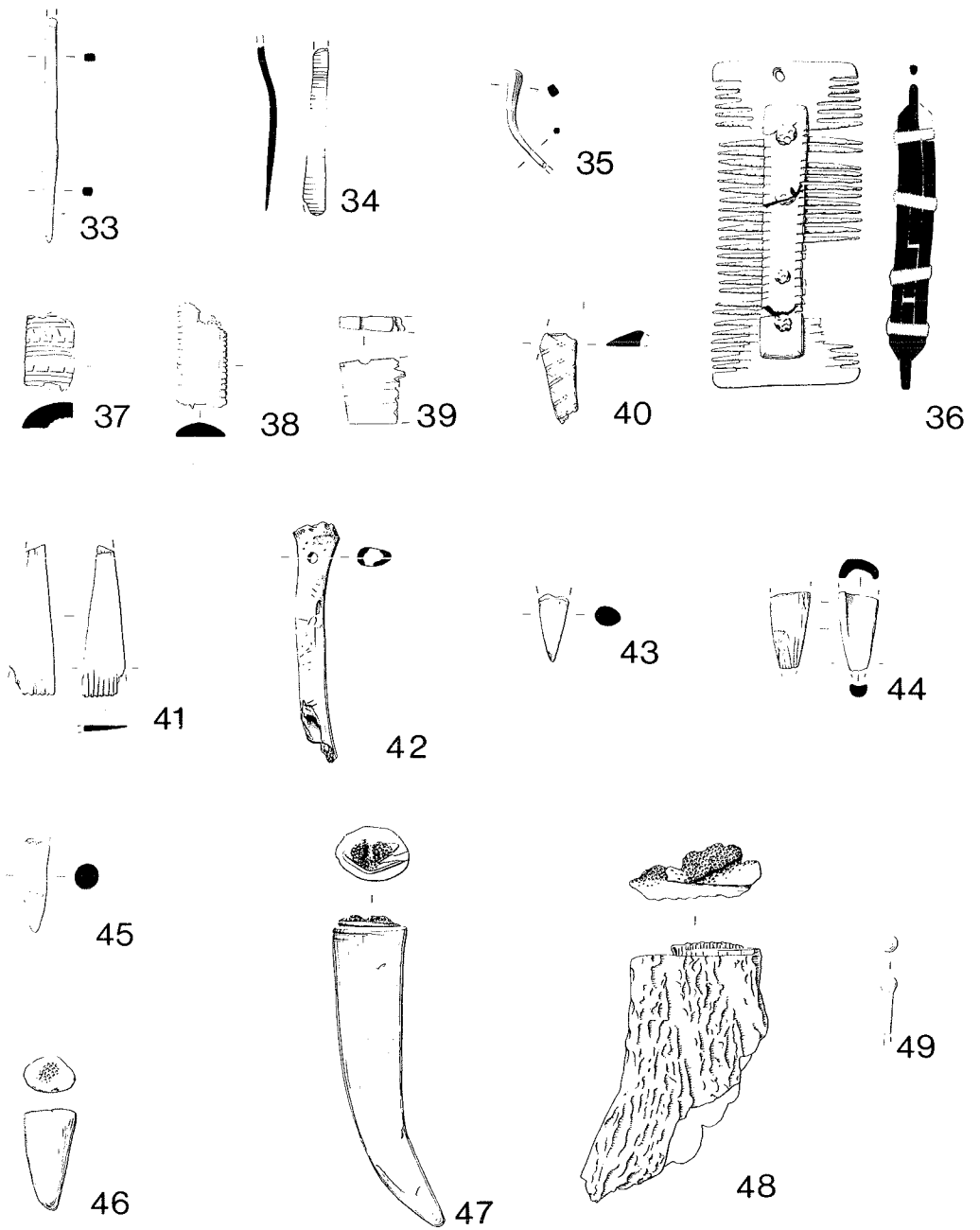


Fig. 16. Walton Lodge, artefacts: 33-5, copper alloy; 36-49, bone and antler (1:2).

- from St Leonard's Place (Waterman 1959, pl. XX:3), the rib of a composite comb (*ibid.* 88, pl. XVIII:11) and a handled comb (*ibid.* 89, fig. 17). Waterman suggested that handled combs of this type may be of Scandinavian rather than English origin. (SF 1000, medieval path 108).
38. Saxon composite bone or antler comb: fragment of rib, 4mm thick and 14.4mm wide, flat on the underside and convex on the undecorated upper side. The perforations at either end indicate that the rib has broken where the rivets originally passed through. The saw marks along both edges suggested that the comb was double-side and that a very fine saw, less than 0.5mm, was used. (SF 1025, unstratified).
 39. Saxon composite comb: fragment of tooth plate with rectangular section, 4.3mm thick and 17mm long. The plate is from a single-sided comb, the rivet hole at one end indicating that the rivets were placed at the junctions of the plates as on the other Walton combs (Farley 1976, 208 fig. 20 and 209, fig 25). All the teeth are broken but the saw marks indicate that the saw was used was c. 1.5mm thick. (SF 1088, fill, Saxon post-hole 263).
 40. Saxon comb or comb case of antler or bone, polished with crossed doubled incised lines, probably triangular section, with a maximum thickness of 5mm and was c. 20mm wide. There were no saw marks on the surviving edge, and a very similar fragment from Walton Vicarage was thought to be part of a comb case rather than a comb (Farley 1976, Fig. 26.14). It is possible however that it may be the rib from a single-sided comb, an example of which was found in York with very similar decoration (*ibid.*, Fig. 16:3; SF 1024, unstratified).
 41. Possible weaving comb of bone or antler, flat section, polished, and 43mm wide by 2mm thick. The teeth appear to have been worn down or to have been sawn off intentionally as the edge is very regular. The saw marks indicate that the teeth were cut with a saw c. 0.55mm thick. The fragment is too incomplete for the original length and width to be estimated, making identification difficult. It is also impossible to date with any certainty, coming from the 'dark soil' deposit. It is similar to weaving combs from Middle and Late Bronze Age contexts at Shearplace Hill (Rahtz and ApSimon 1962, 323, Fig. 23:5) and Eldon's Seat, Dorset (Cunliffe and Phillipson 1968, 224, 12, 13 and 14, plate Va). (SF 1130, layer 411, part of 'dark soil' deposit).
 43. Point, highly polished bone or antler, broken, with a surviving length of 19mm. The section becomes more angular towards the point, and the presence of faint latitudinal wear marks suggested that it was used with a rotating movement. Although found in the 'dark soil' deposit and similar points were found in Late Bronze Age contexts at Eldon's Seat (Cunliffe and Phillipson 1968, 225, pl. Vb) it is itself undatable. Similar needles, thread pickers and points are found in Saxon contexts, i.e. at Walton Vicarage (Farley 1976, 204, Fig. 18:4) and in Iron Age contexts, i.e. George Street, Aylesbury. (Allen and Dalwood 1983, 16, Fig. 11:6). SF 1089, layer 281, part of 'dark soil' deposit).
 44. Bone or antler point or gouge, broken, with a surviving length of 22mm, highly polished with a curved section. The wear marks run parallel to the axis of the bone suggesting a thrusting or stabbing motion was used rather than the rotating movement associated with awls. Probably the broken end of a bone point, similar to those from the Late Bronze Age site at Runnymede Bridge (Longley 1980, Fig. 14:47-51) or Eldon's Seat (Cunliffe and Phillipson 1968, 225) but once again its precise use and date are impossible to determine (SF 1097, layer 340, part of 'dark soil' deposit).
 45. Polished bone or antler point, broken tip with surviving length of 27mm and round section, 8mm diam. (max.). There are some latitudinal and longitudinal scratch marks near the tip otherwise there are no signs of wear (SF 1119, layer 548, part of 'dark soil' deposit).

Antler Offcuts (Fig. 16:46-8)

46. Antler tine, cut then snapped, with two latitudinal grooves resulting from previous attempts to saw the tine, and two longitudinal grooves, of unknown cause or function. Length 86mm. (SF 1079, fill 227, Saxon gully 223).
47. Antler tine offcut with no apparent signs of working. The cut edge is very worn and it is most likely a waste product. Length 29mm. (SF 1004, fill 122, Saxon pit 123).
48. Antler beam fragment with saw marks at one end, and consisting of the dense outer layer with some of the cancellus tissue still attached, suggesting that it is probably the by-product of the separation process as described by MacGregor (1982, 150-1).

Miscellaneous Bone Artefacts (Fig. 16:49)

49. Spherical-headed pin with a broken straight shaft, surviving length 16.6mm. The shaft has a circular section, 2.7mm in diameter, while the pin head has a diameter of 5mm. Possibly a Roman spherical-headed pin, cf. Crummy type 3a (1983, 21, Fig. 1a). (SF 1082, unstratified).

Not illustrated is a post-medieval bone toothbrush head with four rows of holes stained green by the copper wire that was used to secure the bristles in place (SF 1201, unstratified).

Gouges or Points (Fig. 16:42-5)

42. Gouge formed from the polished distal end of an ovicaprid tibia with surviving epiphysis, 135mm long (broken). There is a latitudinal perforation near the surviving epiphysis, which is shattered on one side. The proximal end is broken but would probably have been made into a point. The wear marks seem to be concentrated down the flatter surface of the bone. Although from a medieval layer it is probably residual, other examples having been found locally in Iron Age contexts, at Bierton (*ibid.* Fig. 18:2-4). (SF 1050, medieval layer 130).

Charcoal and Coal

Approximately 160 fragments of charcoal were recovered, 33 of which came from Bronze Age contexts, and 52 from Saxon contexts, the remainder being medieval or later. Of those from the Bronze Age contexts 30 were found in the 'dark soil' deposit, with only 7 from sealed Bronze Age features.

The Animal Bone

by Peta Sadler

The Material

A total of 17,261 fragments of animal bone were recovered, but only those from relatively well-dated contexts were examined. These comprised a total of 4,200 bones, of which 52.5% were dated to the Middle Bronze Age and 42.9% to the Saxon period. A very small proportion was medieval (listed in the archive report). All the contexts described as 'Middle Bronze Age' or 'Saxon' contained residual and intrusive pottery in quantities of up to 30%. This may indicate the percentage of residual/intrusive material in the animal bone assemblage, a point that should be borne in mind when considering the interpretation of differences in the relative proportions of species. The material was moderately well preserved but very fragmented, resulting in only 15% of the Middle Bronze Age, 22% of the Saxon and 23% of the medieval bone being identifiable. The rough treatment which most of the bone has suffered made recognition of gnawing difficult and led to 31% of the Middle Bronze Age, 21% of the Saxon and 25% of the medieval identified bone being represented by loose teeth. This figure might have been higher, but even such compact finds as teeth had often been shattered beyond complete recovery or identification.

Some bone in the Saxon layers 207 and 208 seemed to have been in contact with cess and a few bones from these layers and Middle Bronze Age layer 413 were a uniform amber colour for which there is no obvious reason.

In layer 411 (Middle Bronze Age) first, second and third cattle phalanges were found with proximal and distal sesamoids, and a sheep first

phalanx in 3223 (Saxon) was with a proximal sesamoid which would suggest that these two layers are primary deposits.

Butchery and skinning marks were very rare especially in the first two periods (1.1% in the Middle Bronze Age, 1.6% Saxon and 5.2% medieval, including unidentified fragments). Gnawing seemed to be present in all periods at 1.2%, 1.7% and 1.6%.

Burnt bone was scattered throughout the area and ranged from 2.6% in the medieval period to 4.6% in the Middle Bronze Age. Most of the burnt bone was made up of unidentifiable fragments. Those identified included: cattle: tooth, carpal, metacarpal, 2nd phalanx; sheep: scapula; pig: premaxilla, radii, 3rd phalanx. The colour ranged from one grey piece of calcined bone to black, but most was a reddish-brown. Bone burnt at 300°C on an open fire in experiments by Gilchrist and Mytum (1986, 32) became this colour. Where some fragments of this colour had broken it was possible to see that the centre was black where it was completely incinerated. Except for the sheep scapula in the medieval period, all recognisable pieces were of bone which do not have much meat on them, and were unlikely to have fallen into the fire when being cooked or to have been thrown on the fire when the meat had been eaten.

Method

Ribs and vertebrae were not generally identified to species and were included in the 'unidentified' as either 'cattle-sized', 'sheep-sized', or 'small-sized'. Measurements were taken using dial calipers (Mitutoyo No. 505-633, range 150mm with dial graduations of 0.05mm). The points of measurement used were those described by von den Driesch (1976) and all measurements are in mm. When counting the fragments, pieces of bone which fitted together were counted as one and loose epiphyses were not counted separately from diaphyses if both were present. The minimum number of individuals of each species was assessed for each feature visually and took account of age as well as the number of each bone element. No evidence of goat was found,

but as some of their bones are indistinguishable from sheep, they may have been present and included with this species.

The assistance of G. Cowles of the Ornithology Section of the British Museum (Natural History) in the identification of bird bones is gratefully acknowledged.

Anatomical Analysis of the Species Present

Table 14 shows that all parts of the main domestic animals were present in the first two periods, suggesting that they were killed in this area. There were too few bones identified from the medieval period for it to be useful to specu-

late on this point. Included in 'others' are two red deer mandibles, a water vole mandible, one hare humerus and a rat tibia.

Proportions of Main Domestic Animals

Table 15 shows the relative proportions of the main domestic species for each period, by the numbers of bones and minimum number of individuals.

At Walton Vicarage (Noddle 1976, 270) the fragment count in the Saxon period was cattle 42% (MN 37%) sheep 35% (MN 34%) and pig 23% (MN 29%). (BN percentages adjusted to include only major species).

Table 14. Anatomical analysis of animal bone.

	<i>Cattle</i>			<i>Sheep</i>			<i>Pig</i>			<i>Horse</i>			<i>Dog</i>			<i>Cat</i>			<i>Other</i>			
	B	S	M	B	S	M	B	S	M	B	S	M	B	S	M	B	S	M	B	S	M	
Horn core	2	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cranial	6	6	3	-	1	1	1	6	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Maxilla	2	-	1	-	3	-	1	4	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Mandible	8	5	-	7	21	3	3	12	1	-	-	-	1	-	-	-	-	-	-	3	-	-
Up. teeth	21	20	3	18	20	3	10	5	-	2	4	-	-	-	-	-	-	-	-	-	-	-
L. teeth	13	12	1	20	23	3	19	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Axis	2	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Scapula	2	5	1	3	9	1	8	7	-	2	-	-	-	-	-	-	-	-	-	-	-	-
Humerus	14	7	4	6	13	-	2	1	1	-	1	-	-	-	-	-	-	-	-	-	1	-
Radius	4	9	1	11	16	1	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Ulna	5	8	-	-	2	-	2	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Pelvis	3	6	1	8	8	-	1	3	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Femur	7	9	1	10	6	3	4	5	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Tibia	3	8	1	20	19	3	2	3	-	-	-	-	-	-	-	-	-	-	-	-	1	-
Astragalus	3	2	-	4	1	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcaneum	2	3	-	-	4	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Carpals	1	9	-	2	1	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Metacarp.	7	15	-	6	10	2	4	3	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Metatars.	7	8	-	8	10	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Phalanges	8	6	-	3	6	1	1	5	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Others	6	2	-	1	1	-	-	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Totals	126	142	17	128	175	22	64	65	3	5	10	1	2	-	1	2	-	-	-	3	2	-

B=Middle Bronze Age, S=Saxon, M=Medieval.

Table 15. Proportions of the main domestic animals.

	<i>Middle Bronze Age</i>				<i>Saxon</i>				<i>Medieval</i>			
	BN	%	MN	%	BN	%	MN	%	BN	%	MN	%
Cattle	126	40	9	30	142	37	14	35	17	40	2	40
Sheep	128	40	13	43	174	46	15	37	22	52	2	40
Pig	64	20	8	27	65	17	11	27	3	7	1	20

BN=number of identified bones MN=min. number of individuals

The main differences between the percentages of bone fragments (BN) and minimum number of individuals (MN) is that the percentage of pig increases in all periods. Sheep increase in the Middle Bronze Age and decrease in the Saxon period when using minimum number of individuals, but the relative positions of the species do not change.

Cattle Age

The cattle were aged using epiphysial fusion data and tooth wear. The ages given below are taken from Silver (1969, 285-6) but as the fusion data of ancient stock is unknown, they are intended only as a guide.

Table 16. Cattle epiphysial fusion data.

Age at Fusion	Bone	Middle Bronze Age			Saxon			Medieval		
		UF	F	%F	UF	F	%F	UF	F	%F
10 Months	Scapula } Pelvis }	0	1	100	0	1	100	1	0	0
18 months	Humerus D } Radius P } Phalanx 1st } Phalanx 2nd }	1	9	90	0	7	100	-	-	-
2-2½ years	Metacarpal D } Tibia D }	1	0	0	2	2	50	-	-	-
3½ years	Calcaneum } Femur P }	1	0	0	2	2	50	-	-	-
3½-4 years	Radius D } Femur D }	0	2	100	1	3	75	-	-	-

Cattle Size

When compared with other Bronze Age sites, the Middle Bronze Age cattle measurements were in the normal range. The humerus distal width was at the top of the range. Saxon cattle measurements were nearly all at the top of the range for the period but the metacarpal greatest length was smaller than the two recorded at Facombe for this period, which were 201mm and 189mm (Sadler, 1990, 474). The scapula measurements shown below may have been a little larger, as the bone was slightly damaged.

Table 17. Measurements of Saxon cattle scapulae (mm).

	GLP	LG	BG
Walton Lodge	80	68	62
Facombe	56	48	39
Hamwich	50-83	41-67	35-57

Very few mandibles survived even partially intact, so only a rough idea of the age at death can be gained from the dental evidence. What this small sample suggests is that more Middle Bronze Age and Saxon cattle were killed or died between the ages of 1½ and 3½ years than the fusion data implies. These animals would have been of a reasonable size for culling for meat and hides and could not have been required for breeding, working or dairying. Unfortunately there was not enough evidence to say whether these animals were male, female or castrates. The teeth ages were estimated using the information in Grigson (1982, 21).

A cattle horn core found in the Saxon Layer 207 is comparable with a short-horned ox (Armitage and Clutton-Brock 1976, 338).

Cattle Pathology and Abnormalities

There were two Middle Bronze Age examples of the posterior and anterior enamel being worn off the teeth by overcrowding, and, from the same period, two examples of a build-up of orange-brown tartar. A Middle Bronze Age humerus had a misaligned, healed distal epiphysial fracture. In the same layer there was a first phalanx with a congenital cleft in the articular surface in the form of an oval mark (Baker and Brothwell 1980). From the 'dark soil' deposit (411), there was a first phalanx with exostoses on the achsial and peripheral surfaces of the distal end and the peripheral surface of the proximal end where it extends

the articular surface. This same phalanx had several light cut marks at the proximal end which may have been made when the beast was skinned.

Sheep Age

The ages at death of the sheep were estimated using epiphysial fusion data and tooth wear (see Table 18).

These figures suggest that the majority of animals were killed around 2½–3 years but the numbers are too small for any safe conclusions to be drawn.

From the dental evidence in the Middle Bronze Age, it would appear that there was one death at 2–6 months then an equal number at 1–3 years and over 4 years. In the Saxon period there appear to be more deaths under 1 year, but the majority were killed between 1 and 3 years. In the medieval period there is no evidence of mature sheep from the teeth but this is a very small sample, and is therefore unreliable. These ages are all based on figures in Silver (1962, 285 and 297) and are intended only as a guide.

Cunliffe (1978, 183) and Bradley (1978, 36–37) using the evidence available to them, decided that in some areas during the Iron Age

sheep were mainly kept for meat and in other areas the wool was more important. It is most likely that on this site these useful animals were kept for both these reasons and for their milk.

Sheep Size

When compared with other early sites, the Middle Bronze Age sheep were at the top of the size range, suggesting that the sheep on this site were well fed at this period. The Saxon sheep matched the size of the sheep found at Walton Vicarage (Noddle, 1976) and other Saxon sites.

A horn core found in the 'dark soil' deposit (277) had an outer curve length of 60mm, a basal circumference of 72mm, a maximum diameter at the base of 25.9mm and a minimum diameter at the base of 15.9mm. It was similar to a female Soay. When using the index of height of the neck divided by the minimum length of the neck, two Saxon scapulae gave results of less than 100 (99 and 91) which according to Noddle (1980, 400) indicates that they are a more modern breed than, for example, the Soay.

Sheep Pathology and Abnormalities

In the 'dark soil' deposit (277), there was a sheep mandible showing signs of periodontal disease. There were several examples in the

Table 18. Sheep epiphysial fusion data.

Age at Fusion	Bone	Middle Bronze Age			Saxon			Medieval		
		UF	F	%F	UF	F	%F	UF	F	%F
10 months	Scapula	1	3	75	0	11	100	0	1	100
	Humerus D									
	Radius P									
	Pelvis									
1–2 years	Metacarpal D	1	4	80	2	7	78	0	1	100
	Tibia D									
	Phalanx 1st									
	Phalanx 2nd									
2½–3 years	Ulna	1	0	0	6	1	14	–	–	–
	Femur P									
	Calcaneum									
	Radius D									
3–3½ years	Humerus P	–	–	–	2	1	33	1	0	0
	Femur D									
	Tibia P									

Saxon period of the posterior and anterior enamel being worn off the teeth suggesting that they were crowded. In an immature maxilla, the three deciduous molars had black dentine. A proximal unfused femur in the fill of Saxon gully 3319 (context 292) was porous around the head and there was a pit 10mm by 4.9mm in the trochanter minor. A humerus from Saxon gully 3319 had an exostosis on the lateral edge of the condyle and may be an example of penning elbow which is caused when sheep are frequently penned up or sorted through races.

Pig Age

The age of death of the pigs was estimated using epiphysial fusion data and tooth wear.

These figures show that the majority of the

animals were over one year when killed but only two were over 2½ years. The age estimates are based on figures in Silver (1969, 298).

The dental evidence, based on the figures in Bull and Payne (1982, 56) showed that in the Middle Bronze Age, although there was a death at under 6 months and another between 6 months and one year, the majority died between one year and three years. Only one could be shown to be more than three years old. All the teeth from the Saxon period seemed to be from pigs between one and three years.

There were too few measurements of pig to make any comparisons useful.

Table 19. Pig epiphysial fusion data.

Age at Fusion	Bone	Middle Bronze Age			Saxon			Medieval			
		UF	F	%F	UF	F	%F	UF	F	%F	
1 year	Scapula	}	2	2	50	2	5	71	1	1	50
	Humerus D										
	Radius P										
	Phalanx 2nd										
	Pelvis										
2-2½-years	Metapodia	}	2	0	0	2	2	50	-	-	-
	Phalanx 1st										
	Tibia D										
	Calcaneum										
3½ years	Humerus P	}	3	0	0	0	1	0	-	-	-
	Ulna										
	Femur PD										

Horse

1.5% of all the identified mammal bone was horse. In the Middle Bronze Age, only head and feet remains were found. All the teeth were well worn. The Saxon horse remains included a humerus shaft which seemed immature. It had a thin layer of softer bone on the surface, which is taken to indicate a spurt in growth after a period of inhibition (Baker and Bothwell 1980). A fragment of pelvis from the same layer had chop marks on the pubis and ilium, probably caused when the animal was dismembered. A fragment of scapula (Saxon layer 207) was also chopped and from the same layer came an ulna fragment which

several light cut marks which may have been caused when the skin was removed, though it is more likely to have been when the bone was defleshed. The only medieval bone was a premaxilla with the third incisor erupting, but with the enamel still unworn, suggesting an age of between 4 and 4½ years.

Dog

Dog remains were even more scarce than horse, being only 0.9% of the identified mammal bone. The only bone of interest was part of a mandible, the condyle and coronoid process including the alveolus for M3, found in a Middle Bronze Age context. It is of a similar

size to wolf and the possibility that it is this rather than domestic dog cannot be ruled out.

Cat

Only two cat bones were found from 'Bronze Age' features. The distal femur and lumbar vertebra were both immature.

Red Deer (*Cervus elaphus* L.)

From the same layer as the dog/wolf mandible, came two mandible fragments; a right symphysis and a left diastema. The height of the diastema was 20.1mm, too large for sheep and too small for cattle. A red deer mandible from Faccombe (Sadler, 1990) measured 19.3 mm, at the same point and it seems likely that this is evidence of red deer.

Small Mammals

A mandible from a water vole (*Arvicola terrestris* L.) was found in a Middle Bronze Age context. This animal is often mentioned in reports on faunal remains from early periods when it may have had a more terrestrial life style. Hare (*Lepus* sp.) was represented by a distal humerus and rat (*Rattus rattus* L.) by a tibia. Both were in Saxon contexts.

Bird Bones

One fowl bone is recorded from the Middle Bronze Age layers (intrusive). Also from this period was a distal ulna which may be from a small goose or large duck. Unfortunately the reference material at the British Museum Bird section at Tring was not complete enough to make a more accurate identification. Bones from domestic fowl and goose were more common in the Saxon period. A fowl tibiotarsus (layer 207) had cut marks on the distal end showing that the lower limb was removed. Also in this layer was a corocoid the size of the white fronted goose (*Anser albifrons*).

In layer 208 a very large distal femur was found; the distal width was a minimum of 23mm. It matched the femur of a domestic fowl in the reference material at the British Museum (ref. 1886, 2.19.70 C. Darwin (P)), a male Cochin Fowl. Such large fowl are not thought to have been bred until much later and this may be an intrusive bone.

Interpretation of Animal Remains

The sample under discussion is too small for definite conclusions to be drawn about the age

Table 20. Animal bone measurements from Walton Lodge. The *italic* measurements are Middle Bronze Age.

The only medieval measurement is followed by an M. Asterisks after the measurements indicate that the bone was unfused. The cattle metacarpal measurements are from the same bone.

Bone		Cattle	Sheep	Pig	Horse	D. Fowl
Scapula	GLP	80	31	—	—	—
	LG	68	24	—	—	—
	BG	62	17,19,21,	25	—	—
Humerus	SD	32	12	—	—	—
	Bd	73	27,29,30,30	29,29M	—	14
Radius	Bp	—	28	—	—	—
	Bd	65,65,75	25*	—	—	—
Femur	Bd	—	34	—	—	16,23
Tibia	Bd	58*,62*	25,25	29	—	—
Astragalus	GL1	59,64	25,29	—	—	—
Metacarpal	GL	187	—	—	—	—
	SD	31	—	—	—	—
	BFd	56	—	—	—	—
Metatarsal	Bp	—	20,19,21	—	—	—
	SD	—	11,12,12	—	—	—
	BFd	59	—	—	—	—
1st Phalanx	GL	—	31,35,33	—	75	—
	Bp	27,27,35	10,11,11,12	—	45	—
2nd Phalanx	GL	35,46,37,41,41	23, 21	21,22	—	—

structure of the herds, the average size of the animals or the actual proportions of different species in each period but trends have been noted and it is hoped that these will be useful for comparison with other sites.

There is no indication from the Middle Bronze Age cattle figures that they were the mainstay of the animal-rearing economy as has been suggested by Mercer (1981, xviii) but they seem to have supplied the inhabitants with the bulk of their meat. By the Saxon period there seems to have been an increase in the proportion of sheep to cattle which continued into the medieval period. The pig was numerically the least important of the main domestic animals in all periods which may be because the local environment was not particularly suitable.

There is abundant evidence that horsemeat made an important contribution to the diet in at least some parts of England during the Iron Age (Maltby, 1981) and it seems that use was made of horseflesh up to the Saxon period at Walton, though if it was used for human consumption is unknown.

Shell

150 fragments of shell were recovered, all of which were from medieval or later contexts. These divided almost equally into snail and oyster shells. Eleven very small fragments of oyster shell were found, all from the disturbed Bronze Age layer, and only two tiny fragments in Saxon contexts.

The Plant Remains by John Giorgi

Introduction

During excavations at Walton Lodge, 28 soil samples were collected and floated for the retrieval of carbonised plant remains, collection being with a 500 micron mesh. The quantity of sediment processed for each sample varied between 0.5 and 30 litres in volume, although the majority of samples were between 7.5 and 15 litres. The following contexts were selected for sampling: Middle Bronze Age: 2 samples (one from layer 721), plus 1 uncertain; Middle Saxon: 17 samples, plus 5 uncertain; Medieval:

3 samples. Details of identified species are retained in the archive report.

The plant remains were identified using reference material housed at the University Museum, Oxford, under the supervision of Dr Mark Robinson. The material will be discussed by period, with rich assemblages from individual features being considered in more detail.

The Middle Bronze Age Samples

From the three (?) MBA contexts sampled, cereal grain was retrieved comprising wheat (*Triticum* sp.), barley (*Hordeum* sp.) and oats (*Avena* sp.). Grains of free-threshing bread or club wheat (*Triticum aestivo-compactum*) rather than hulled wheat predominated and this was also noted on the Late Iron Age site at Bierton, Buckinghamshire (Jones 1986). However, the assemblages were of similar character to those of the Saxon samples.

The Saxon Samples

These samples showed a range of cereal grain, mostly wheat and barley, with a slight presence of oats, arable weed seeds, and an almost total absence of chaff. Bread wheat grains (*T. aestivo-compactum*) amounting to a total of 31 from 16 samples. The grains of either emmer or spelt (*T. dicocum* or *T. spelta*) were also recovered, although these are probably contaminants from prehistoric deposits, since these grains came from contexts containing significant quantities of residual prehistoric pottery. A particularly rich assemblage was recovered from pit 354 (sample 2008). The greater part of the sample consisted of a large number of barley grains (221), including the six-row hulled variety, with a lesser number of wheat (*T. aestivo-compactum*) (14) and one rye grain (*Secale cereale*). One horsebean (*Vicia faba*) was also present. There were relatively few weed seeds in sample 2008 although the presence of arable weeds (e.g. *Anthemis cotula*) suggests that the assemblage may represent an advanced stage in crop processing of barley rather than the final product.

The Medieval Samples

A total of three samples were taken from

medieval contexts. One sample (2000), collected from the interior of a stone oven (128), contained grains of bread wheat (11), indeterminate cereal fragments (48) and two peas (*Pisum sativum*), plus an assortment of weed seeds, including 40 dock seeds (*Rumex sp.*). Cereal remains are not uncommon finds in medieval ovens (Straker 1979). This assemblage may either represent a particular stage of crop processing related to the use of the kiln, or debris collected from a crop processing activity elsewhere, which was then used to fuel the kiln.

Discussion

by Hal Dalwood

The Early Bronze Age

At an early stage of the excavation, a few sherds of pottery were identified as Early Bronze Age; in total 52 sherds (236g) were recognised among the prehistoric pottery (Fig. 8:1-4). They were all in distinctive grog-tempered and grog-and-flint tempered fabrics (P14, P15), and the diagnostic sherds seem to be part of a collared urn or urns. In addition a small group of flint flakes, scrapers and cores can be tentatively identified as Early Bronze Age. This small assemblage of Early Bronze Age material may be evidence for settlement, but the quantity of material is too small to be conclusive: the scatter of Neolithic material from the Walton Vicarage site is similarly difficult to interpret, but both may be elucidated by future excavation.

The Middle Bronze Age Settlement

Dating the Site

The excavated area produced a large quantity of pottery (28kg) that can be dated to the Bronze Age, mostly of the Deverel-Rimbury tradition, but also including some Late Bronze Age/Early Iron Age pottery (Figs. 8 and 9). Study of the pottery suggests that the Late Bronze Age/Early Iron Age material is a minor element in the assemblage, although not readily quantified. The other evidence for the presence of the Bronze Age settlement includes the flint assemblage itself, which has a high

ratio of scrapers and can be compared with other Middle Bronze Age assemblages. Other artefacts from the site also have parallels at Middle Bronze Age sites, including two shale armlet fragments (Fig. 14:17-18), a spindle whorl, three loom weights (Fig. 14:19-20, 24), and a bronze awl/tracer (Fig. 16:33). All this material came from a small area excavation, which does not represent the total settlement. It must originally have been in association, although the material was nearly all recovered as residual finds in secondary deposits, principally the 'dark soil' deposits. Although associated with a large quantity of animal bone, it was impossible to isolate an assuredly uncontaminated bone sample from which to obtain a radiocarbon date.

The Character of the Site

The nature of the Bronze Age settlement at Walton Lodge is difficult to determine. The quantity of artefactual evidence is unusual in comparison with other contemporary sites: there were 6,959 sherds (27.9kg) of Bronze Age pottery from a total excavated area of 242m², a density of 29 sherds per m². This is in marked contrast to Puddlehill (Bedfordshire) with 92 sherds from c.2,000m² (0.05 sherds per m²) (Matthews 1976, 36-43), and 1065 sherds from c.2550m² (c.0.40 sherds per m²) at Black Patch, hut platforms 1 and 4 (Drewett 1982). Comparable quantities of artefacts can only be found at sites with an appreciable quantity of occupation deposit surviving above natural, such as at Runnymede Bridge (Longley 1980). The quantity of material from Walton Lodge may be directly attributable to the survival of deposits which normally only survive in river valley locations. The occupation deposits at Walton Lodge were partially transformed into the 'dark soil' deposits, but Saxon and later occupation did not remove them. The incorporation of the site into the late Saxon plots (see below) may have helped ensure the preservation of these deposits.

The resolution of the posthole scatter into a double-ring round house should not be accepted uncritically, but if it seems plausible, then its discovery is indeed fortunate in such a small excavated area.

The Extent of the Settlement

The extent of the Walton Lodge Middle Bronze Age settlement is difficult to determine since the restricted area excavated could not determine the limits of the site. Small quantities of Deverel–Rimbury and other pottery were found at the Teachers' Centre site which lies 200m north-east of Walton Lodge (Fig. 2:2; see below) and pottery with 'angular limestone or flint grits' was found at the Walton Vicarage site, 100m west of Walton Lodge: this is similar in appearance and may be contemporary (Fig. 2:3; Farley 1976, 191). These are small scatters of material in contrast to the large quantity found at Walton Lodge. It is undoubtedly true that without the preservation of the 'dark soil' deposits, interpretation of the site as a Bronze Age settlement would be less assured, since so little material came from features cut into the natural subsoil. At both the Teachers' Centre (see below) and Walton Vicarage sites (Farley 1976, 169–60), layers above natural bedrock were also excavated by hand, so there is no reason to suppose that the quantity of prehistoric material from Walton Lodge is a product of the circumstances of excavation alone. The small quantities of Bronze Age material from these neighbouring sites must indicate that they lay outside the limits of the settlement area.

Consideration of the plans of contemporary excavated sites suggests that the settlement might occupy a small area: the Deverel–Rimbury site at Puddlehill is only c.50m in diameter (Matthews 1976, 36–43) and located in the same 'peripheral' region of Deverel–Rimbury settlement. Such small units seem to be of similar size to the individual 'enclosures' of the classic Deverel–Rimbury sites of southern England, such as Plumpton Plain (Holleyman and Curwen 1935), Itford Hill (Burston and Holleyman 1957) and Black Patch (Drewett 1982). It is possible that the excavated area only represents part of one of a group of linked enclosures, in the manner of the classic Sussex sites, but a settlement of more modest proportions seems probable.

Food Production

Pottery might be expected to provide a use-

ful source of information, but the fragmentary condition of the assemblage made it impossible to assess ratios of cooking pots and other food preparation vessels to finer vessels. The appearance of 'fine' and 'coarse' fabrics in all of the three major fabric groups (Table 3), which seems to correlate with sherd thickness, may indicate a simple twofold division of the assemblage into 'fine' and 'coarse' wares; the less fragmentary assemblage at Black Patch was divided into 'fine', 'everyday' and 'heavy duty' wares (Ellison 1982). The artefactual evidence for food production was difficult to determine.

The animal bone assemblage was as fragmentary as the pottery, and only a small sample was available for study (Table 15). The ratios of the major species in the Middle Bronze Age seems broadly comparable with the Saxon assemblage, as well as with the Bier-ton Late Iron Age assemblage (Jones, G. 1986, 32). The species in order of importance were ranked cattle:sheep:pig (taking carcass weight into consideration).

Craft Activity

The craft activities for which archaeological evidence could be found included spinning and weaving wool, indicated by spindle whorls, loomweights, and the postulated weaving comb (Fig. 14:19–21; Fig. 15:24; Fig. 16:41). Leather working was indicated by the bone awl (Fig. 16:33) and the flint scrapers (Fig. 12:5–8), while the copper alloy awl/tracer may be further evidence of this, or possibly of metal working (Coles 1963–4, 117).

Social Activity and Spatial Patterning

From such a small excavated area, it is clearly difficult to find much evidence for economic or social activity from the spatial patterning of archaeological material. The contemporary small finds were plotted, and these appear to cluster within the suggested round-house plan (Fig. 4), but this may not be significant, as most of the artefacts were either residual material in post-Bronze Age features, or in the 'dark soil' deposit, and so had probably been displaced post-deposition. The evidence for the range of activities represented by artefacts is comparable to the classic Deverel–

Rimbury occupation sites, where usually only the hut platforms have been excavated. The presence of quantities of artefacts within Middle Bronze Age round houses might indicate that these artefacts are either primary or *de facto* rubbish (Schiffer 1976, 30–4), the presence of the latter being recognised at Black Patch (Drewett 1982, 328–30). The artefacts at Walton Lodge must be regarded as ‘secondary’ or ‘tertiary’ rubbish.

External Contacts

The two fragments of shale armlet, probably parts of the same artefact, were almost certainly imported from the Dorset coast; this type of armlet was manufactured at the Deverel–Rimbury site of Eldon’s Seat I (Cunliffe and Phillipson 1968). Other imported objects were the saddle querns, none of which are of local stone (Fig. 13:11; Fig. 14:12), although sources cannot be precisely identified.

The geological evidence can be used confidently to affirm external connections; the evidence of pottery form and decoration, on the other hand, presents problems of interpretation (see below), and there are particular problems in this period, as reviewed elsewhere (Barrett 1976).

The Local and Regional Setting

The Middle Bronze Age site at Walton Lodge was a fortuitous discovery, and it is the first settlement site of this date identified in Buckinghamshire. As described above, in general pre-Iron Age material is scarce in the Aylesbury area, and the only local contemporary find is the single bucket urn from Bierton (Allen 1986, 4). It has already been noted that the early prehistoric material in the Vale of Aylesbury appears to be concentrated on the preferred soils overlying the Portland Beds, as is demonstrated in later periods. The clay soils of the Vale have produced little early prehistoric material. The Walton Lodge site itself is located on the Portland beds, and had access to a water supply at Bear Brook, 400m to the north in the shallow valley that separates Walton from Aylesbury (Fig. 1).

Considering the wider region, to the south

there is moderate density of round barrows in the Chilterns, whereas to the north the gravel terraces of the Great Ouse valley in Buckinghamshire, Bedfordshire and Northamptonshire carry numerous ring ditches (i.e. Green 1974; Allen 1981). As well as these Bronze Age monuments both areas produce Bronze Age metalwork as stray finds and as hoards.

However, settlement sites have proved elusive until recent years in the area: Puddlehill, Beds. (Matthews 1976, 36–46) and Abingdon, Oxon. (Barrett and Bradley 1980, Fig. 4) are the only known local sites. Recently a large circular Late Bronze Age/Early Iron Age building has been excavated at Bancroft, north Bucks (Williams forthcoming) and the Late Bronze Age/Early Iron Age hillfort in Aylesbury has been described above. The reason for this paucity of Bronze Age settlements must lie in the difficulty of recognition, rather than in a genuine absence. Some of the problems of recognition have been discussed by Bradley *et al.* (1980): the absence of pits or deep ditches means that they are not easily identified from air photographs, and that the sites can easily be obliterated in quarrying with little chance of detection. The small size of the sites is another factor, but Middle Bronze Age sites ought to be identifiable from finds scatters alone, since lithics are prolific and Deverel–Rimbury pottery is fairly robust and easily identifiable if a few diagnostic body sherds are found (cf. Matthews 1976, 46). Undoubtedly, other sites of this period will be discovered in the area.

Late Iron Age to Early Saxon Occupation

The sparse archaeological evidence for these periods consist of pottery and little else (Table 1). The occurrence of Roman pottery is typical of all sites in Aylesbury, and has been interpreted as the spread of household rubbish mixed with middens used to manure agricultural land (see above and Benfield 1987, 5). The less fragmentary nature of the Iron Age pottery in comparison to the Roman pottery (Table 2) may suggest nearby Iron Age settlement, but this is unlocated at present.

Evidence for occupation in the fifth to sixth century is slight, with very little datable pot-

tery, in marked contrast to the Walton Vicarage site, 100m to the south-west (Farley 1976). The Walton Lodge site seems to have been peripheral to the area occupied in the fifth–sixth century; but an Early Saxon sunken-floored building was discovered in 1987 at the Croft Road site, 200m to the north-east (Dalwood and Hawkins forthcoming).

The Middle Saxon Settlement

Dating the Occupation

The rectangular building and associated features (Fig. 5) are dated to the seventh to eighth centuries on the basis of the pottery assemblages. The presence of Ipswich Ware at Walton Lodge is an addition to the known distribution of this pottery, which only occurs in small quantities away from Suffolk (Vince 1984, Fig. 1). Ipswich Ware has also been found at the Prebendal Grounds site in association with probably residual grass-tempered pottery (Hurman *pers. comm.*) but so far the single vessel of sandstone-tempered (?Ipswich-type) ware remains unique (Fig. 10:38). It has been argued in the pottery report that grass-tempered pottery might have remained in production into the eighth century, and this would consequently imply that the ‘later’ sunken-floored buildings at Walton Vicarage also have a post-seventh-century date. If, however, the bulk of the material from Walton Lodge is instead regarded as late sixth to early seventh-century, and contemporary with the ‘later’ phase at Walton Vicarage as originally dated, then the eighth century Ipswich ware (and the Ipswich-type ware) would have no associated pottery.

It is often stated that there were areas of England in the Middle Saxon period that only had ‘infrequent domestic potting’ or were actually aceramic (Hodges 1981, 53, fig. 6:1). At comprehensively excavated sites, such as Cowdery’s Down or the Northampton ‘palaces’, a suggested explanation for the comprehensive absence of pottery and other finds was that the rubbish disposal practice did not leave large deposits to be excavated (Millet 1982, 249–50; Denham 1985, 53) and that this was related to the high status of the site. The

paucity of non-ceramic artefacts as well as pottery at these sites supports a ‘depositional’ rather than an ‘aceramic’ interpretation.

The Extent of the Settlement

If the rectangular building can be accepted as Middle Saxon, then this partly fills a Middle Saxon ‘gap’ in the settlement evidence in Walton (Farley 1976, 170). It is suggested here that the occupation of the Walton Vicarage site might also extend into the eighth century, if the pottery evidence from that site is reinterpreted. The temporal link between the evidence for the Early and Late Saxon settlement formed by Walton Lodge is important for an understanding of the settlement development, but the discovery of a single sunken-floored building at the Croft Road site (200m north-west of Walton Lodge) argues against the use of a simplistic model of settlement development (Dalwood and Hawkins forthcoming). The evidence for the several periods of Saxon occupation is distributed linearly in a south-west to north-east direction along the Portland Beds that underlie Walton, roughly parallel to the line of Walton Road. The evidence is strung out over c.400m, from the Walton Vicarage site to the *sceat* findspot in Highbridge Road (Fig. 2) and appears to conform to topographic restrictions: the ground dips gently downward north-east of Croft Road to the Bear Brook, and the Portland Beds are overlain by Gault clay c.100m to the south. The excavations at Walton Road Teachers’ Centre (see below) and elsewhere, have shown that there were also areas within this topography that were not occupied in the Saxon period.

The Character of the Settlement

The Saxon settlement at Walton Lodge, with gullies, small pits, ‘midden’ deposits and a post-built building, is typical of earlier Saxon rural settlements. The building contained one area of possible ‘occupation deposit’ (3170) but this contained little artefactual material. It seems likely that the floor area had been kept clean, which might indicate it was used as a dwelling, although no hearth was found inside it. The ‘midden’ deposit (208) contained a dense spread of fragmented pottery and other

material. The majority of datable Saxon finds were recovered from Saxon contexts.

The total quantity of artefactual material, especially pottery, is small when compared to the other periods represented: although no Iron Age features were identified, the Iron Age pottery assemblage was comparable in size to the Saxon pottery, a ratio of 1:1.5 (by weight: Table 2).

There was however, a fairly high density of material compared to some other Saxon settlements of seventh-century date, and it seems possible that the 'cleanliness' of the other sites might be explained by stringent rubbish disposal practices, which may reflect the social status of the site. In the case of Walton Lodge, comparison with the Bronze Age material is interesting: although there were comparable quantities of non-ceramic artefacts the ratio of Saxon to Bronze Age pottery was 1:4 (by weight: Table 2). This may be explained simply by the length of occupation, by the previously mentioned 'low ceramic production', or by 'depositional' theories.

Food Production

It appears that most of the Saxon pottery found on the site consisted of simple cooking pots, some with lugs for suspension over hearths. Other artefactual evidence included rotary quern fragments (Fig. 13:9-10). Environmental evidence was rather limited, most samples containing rather little carbonised material and only one sample, from a small pit (354), contained an appreciable quantity of material. Barley predominated, although bread wheat and rye were also present. It is suggested that this small assemblage indicates crop processing on site. The animal bone assemblage comprised the usual main domestic animals (Table 15), and sheep predominated by fragment count, although the minimum number of individuals suggested that beef was the more important source of meat. However, the small size of the Saxon bone assemblage should be noted, and little emphasis can be placed on comparisons with the assemblage at Walton Vicarage. The relatively low number of pig bones is usually taken as unrepresentative

of the importance of this species, which is historically well-attested (Clutton-Brock 1976, 378). Horsemeat provided an occasional element in the diet, as is known at other sites (*ibid.*, 383); domestic fowl and goose were also kept, and hare were hunted.

Craft Activity

Evidence for spinning and weaving wool, in the form of spindle whorls and loomweights, is found on many Saxon settlement sites, and Walton Lodge was no exception: two annular loomweights (Fig. 15:22-3) and a possible spindle whorl (Fig. 15:25) were found. Unfortunately the animal bone assemblage was too small for anything useful to be said about the use of sheep for wool as opposed to meat. The other major craft activity indicated was antler working; three red deer antler offcuts were found, presumably waste from the on-site manufacture of bone artefacts (Fig. 16). The pottery was certainly a local product, and was represented by a simple repertoire of forms. All the pottery was hand made and fired in simple kilns in contrast to the imported Ipswich ware.

Social Activity and Spatial Patterning

No artefacts were recovered from the area of the building that were indicative of particular social or economic activities. It seems likely that the building was kept clean and 'primary' rubbish deposits were not allowed to accumulate in it; the adjacent 'midden' (208) could be a 'secondary' rubbish deposit. The small pit containing a horse skull is notable, since this is not simply rubbish disposition. Merrifield (1987, 33) has remarked on similar deposits, as at Iron Age occupation of South Cadbury (Alcock 1972, 136, 153). A 'ritual' interpretation of this feature seems possible.

External Contacts

The three Ipswich Ware sherds are certainly imported from East Anglia and might indicate trade in some perishable substance via the Thames and its tributaries, rather than the pots themselves. This seems the likeliest explanation for the thin distribution of Ipswich Ware away from East Anglia (Vince 1984, 433). The Neidermendig lava querns are well-known as direct imports from the Rhineland in the

Middle Saxon period. One fragment was found at Walton Vicarage in an eleventh-century context (Farley 1976, Fig. 35:10); the rotary quernstones from 'early' Saxon contexts there were of local origin (*ibid.* Fig. 22:6; 23:3). Lava quern was found in some quantity at the Middle Saxon site at Chicheley, near Newport Pagnell (Farley 1980, 99), and is not a major component of Roman settlements in the Milton Keynes area (Zeevat 1987, 145), nor in the Chiltern villas. Evidence of increasing external contact can be detected at many Middle Saxon settlements, although this is much more clearly attested in urban rather than rural sites (Hodges 1982).

The Local and Regional Setting

The present excavation was intended to recover further evidence for the Saxon settlement in Walton, as described above, and subsequent fieldwork has had the same purpose (Dalwood and Hawkins forthcoming). The remarks concerning the absence of known Bronze Age settlements in the local area do not apply to Saxon settlement: Early Saxon settlements are known to exist at Berton Vicarage (Allen 1986, 78–80), and at two other locations in that parish (CAS 5695, CAS 4948), as well as at Church End, Weston Turville (CAS 4117). Antiquarian collections attest to a group of cemetery sites, c.2km west of Aylesbury in the parish of Stone, and place-name evidence suggests that many other settlements in the immediate area have a Saxon origin. Most of this evidence relates to the fifth to sixth centuries: the discovery of the Middle Saxon Christian cemetery in Aylesbury (Allen and Dalwood 1983), located within an Iron Age hillfort (Farley forthcoming) shows the importance of Aylesbury itself at this period. The absence of appreciable quantities of artefactual material of Early to Late Saxon date in Aylesbury is in marked contrast to the evidence from Walton for the same period, and is hard to explain, since the importance of

Aylesbury throughout the Saxon period is historically well attested (Allen and Dalwood 1983, 50).

Middle Saxon settlements (eighth to ninth century) have proved difficult to locate away from the areas of manufacture of recognisable Middle Saxon pottery, in the south and west of England. It is suggested here that grass-tempered pottery continued in production into the later period, and Walton Lodge is offered as a rural settlement contemporary, in part at least, with the Aylesbury cemetery, the early minster church, and the reoccupied hillfort.

Late Saxon and Medieval Settlement

A small quantity of tenth-century pottery was recovered from the excavated area and a few artefacts can also be tentatively dated to this period, but no contemporary features were found. At Walton Vicarage it was found that major new property boundaries were laid out in the tenth century. Further linear tenth-century boundaries have been found in the course of subsequent excavations in Walton (Dalwood and Hawkins forthcoming) and it appears that in this period there was a planned layout and reorganisation of Walton, as has been seen at other settlements, such as Raunds, Northants (Foard and Pearson 1985).

At Walton Lodge none of the eleventh-century pottery found at Walton Vicarage was identified, and the peak of the medieval utilisation of the site was in the twelfth century. The possible malting kiln and path (Fig. 6) belonged to this period, and they presumably lay within a medieval plot, the buildings of which were nearer Walton Street (Fig. 3). The low density of Brill/Boarstall pottery at the Walton Lodge site suggests that this area was not extensively utilised from the latter twelfth century, again in contrast to the Walton Vicarage site. The evidence for medieval settlement in Walton is considered more fully below.

MEDIEVAL AND POST-MEDIEVAL OCCUPATION AT THE TEACHER'S CENTRE, WALTON ROAD

by Alison Hawkins

Introduction

The excavation at the former Teachers' Centre began in May 1986 and was completed in October. An area of 250m² was excavated, with the permission of Buckinghamshire County Council who owned the site. The site previously formed part of Aylesbury F. E. College. The excavation was in advance of demolition of the college buildings (Fig. 17) and projected redevelopment of the site.

Excavation Methods

A thin layer (0.03m) of topsoil, containing Victorian ceramics, was removed by a digger/loader down to the limestone rubble surface (178) described below. With virtually no horizontal stratigraphy, the phasing of the site was simply split into medieval and post-medieval phases.

Medieval Occupation (Fig. 18)

Two V-shaped ditches (451 and 425) ran parallel to each other, north-west to south-west, at right angles to Walton Road. Cut into the upper fill of the eastern ditch (451) was a series of stakeholes and a posthole which may show the continuation of this boundary as a fence of late medieval or early post-medieval date. Cutting the northern end of 425 was a U-shaped ditch terminus (516) running approximately north-south.

Five large shallow pits were found; 283, 289 (probably contemporary), 434, 437 and 501, all dated to the twelfth-thirteenth century. Pit 437 and 501 were oval pits of similar profile and had homogeneous fills, suggesting deliberate backfill with 'rubbish' deposits. Pits 434, 283 and 289 lay aligned north-west to south-east. They were all shallow features, especially 283 and 389 (Fig. 20) and all contained fills similar to 437 and 501.

The well (198) was fully excavated to a depth

of 2.8m (Fig. 19). It was rock-cut, 1.25m diam. with well-dressed sides and base, and an irregular profile. It was filled with a green-grey and brown mottled clay fill, probably the result of deliberate infilling. Several near-complete Brill Boarstall jugs were found towards the base (Figs. 25-6), suggesting a late thirteenth to fourteenth-century date.

Some shallow scoops and postholes of medieval date occurred randomly across the site. Two scoops (194 and 196) may be contemporary as they were similar in size, shape and fill (Fig. 20).

The Post-Medieval Occupation (Fig. 21)

A shallow, V-shaped gully (410) ran approximately east-west for 8.0m across the site. A series of postholes cut it at each end.

In the southern part of the site were two rows of postholes running north-west to south-east which probably represent two phases of a fence. These postholes were square or sub-square in plan, ranging from 0.40m to 0.80m in width, and containing square postpipes approximately 0.18m across, and were on the same alignment as the medieval gullies described above (Fig. 18).

A north-west to south-east wall foundation (217/232) lay below a limestone spread (178). The levelling and resurfacing of the area with the layer of limestone rubble truncated earlier postholes and had removed the old ground surface. The rubble appeared to have been laid down in the eighteenth century.

Near the western edge of the site were five shallow rectangular features (429, 441, 180, 182 and 145), which contained tabular limestone blocks pitched on their long axis, packed tightly together and covered in yellow sand. These may have formed the foundation of a

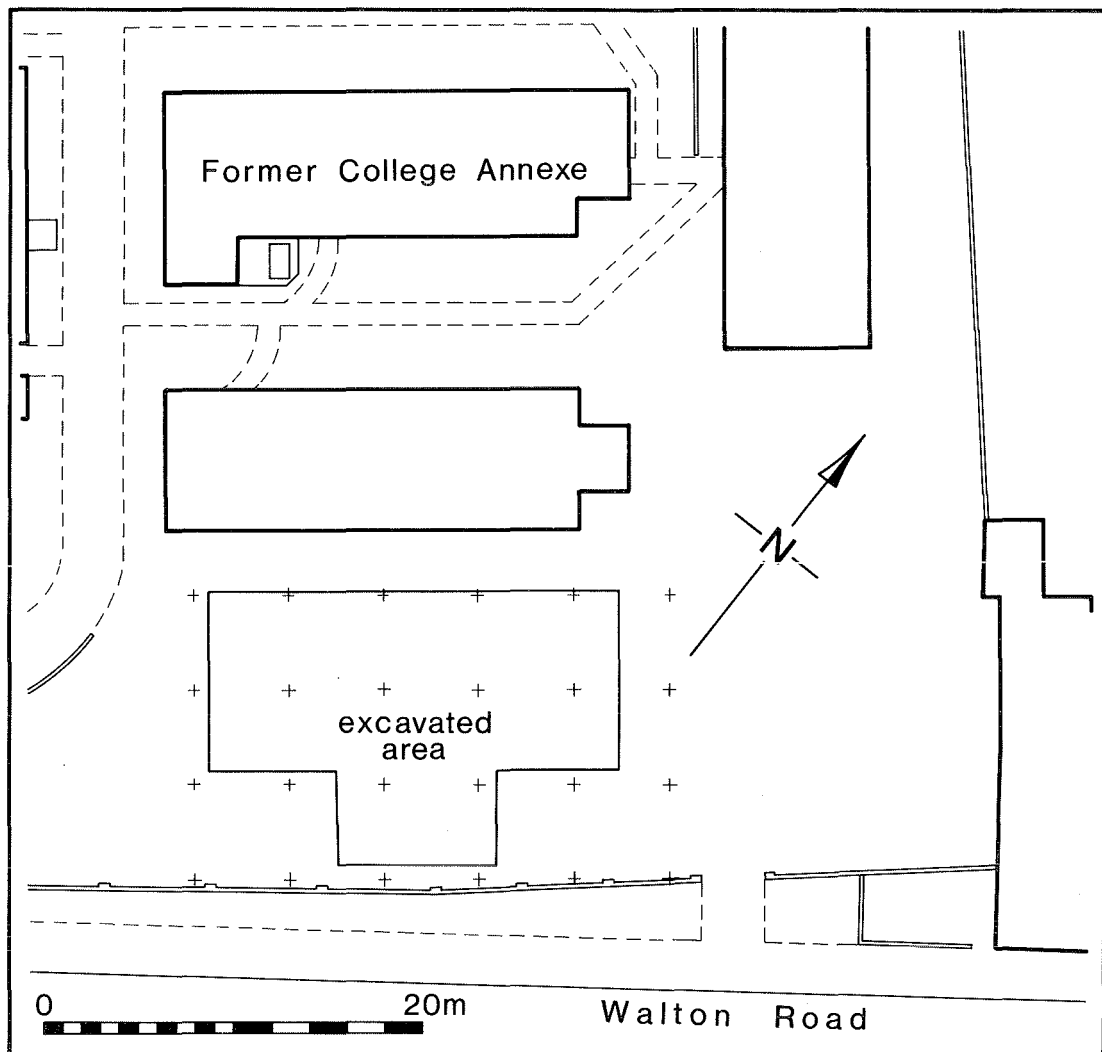


Fig. 17. Teachers' Centre, excavated area (1986).

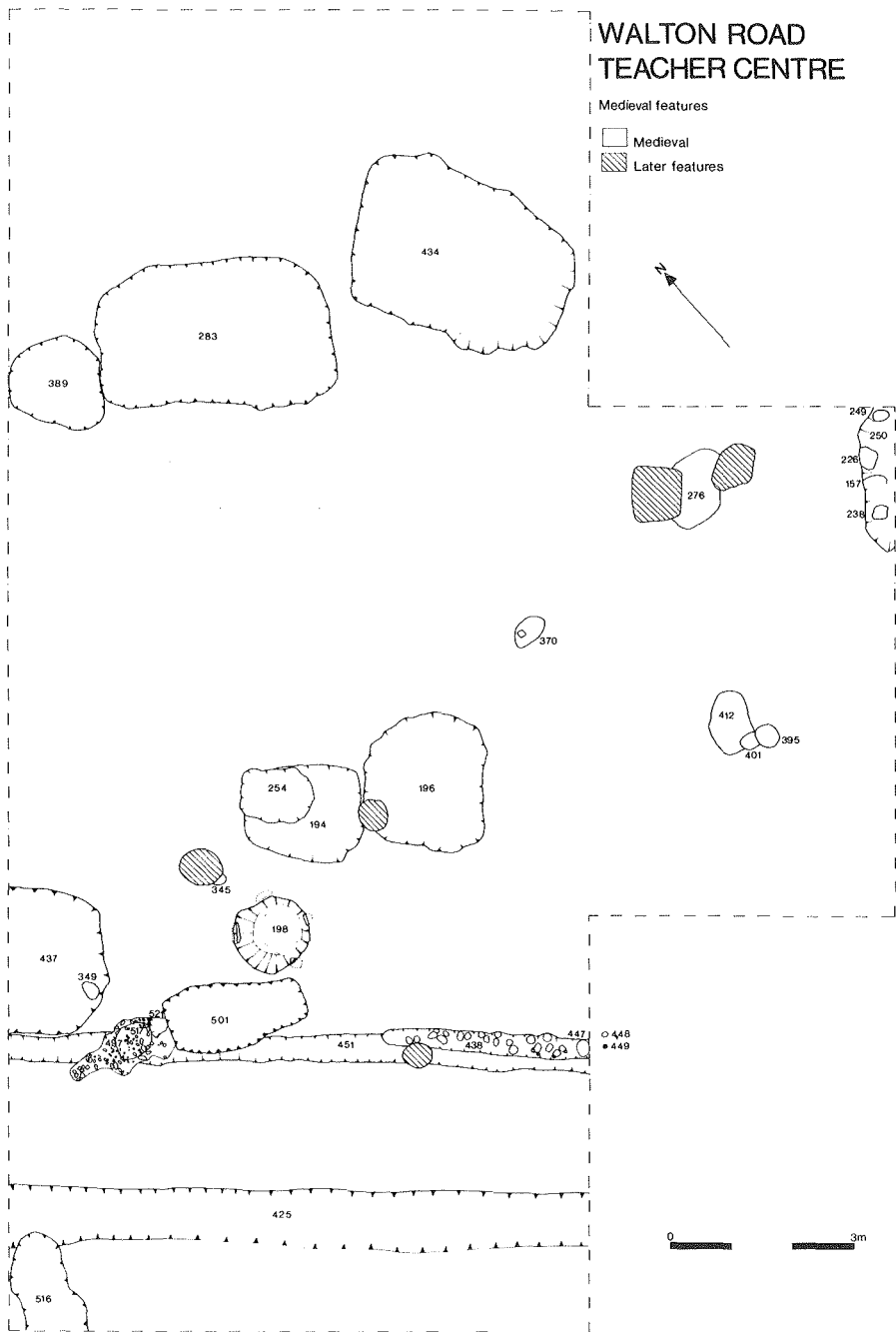


Fig. 18. Teachers' Centre, medieval features.

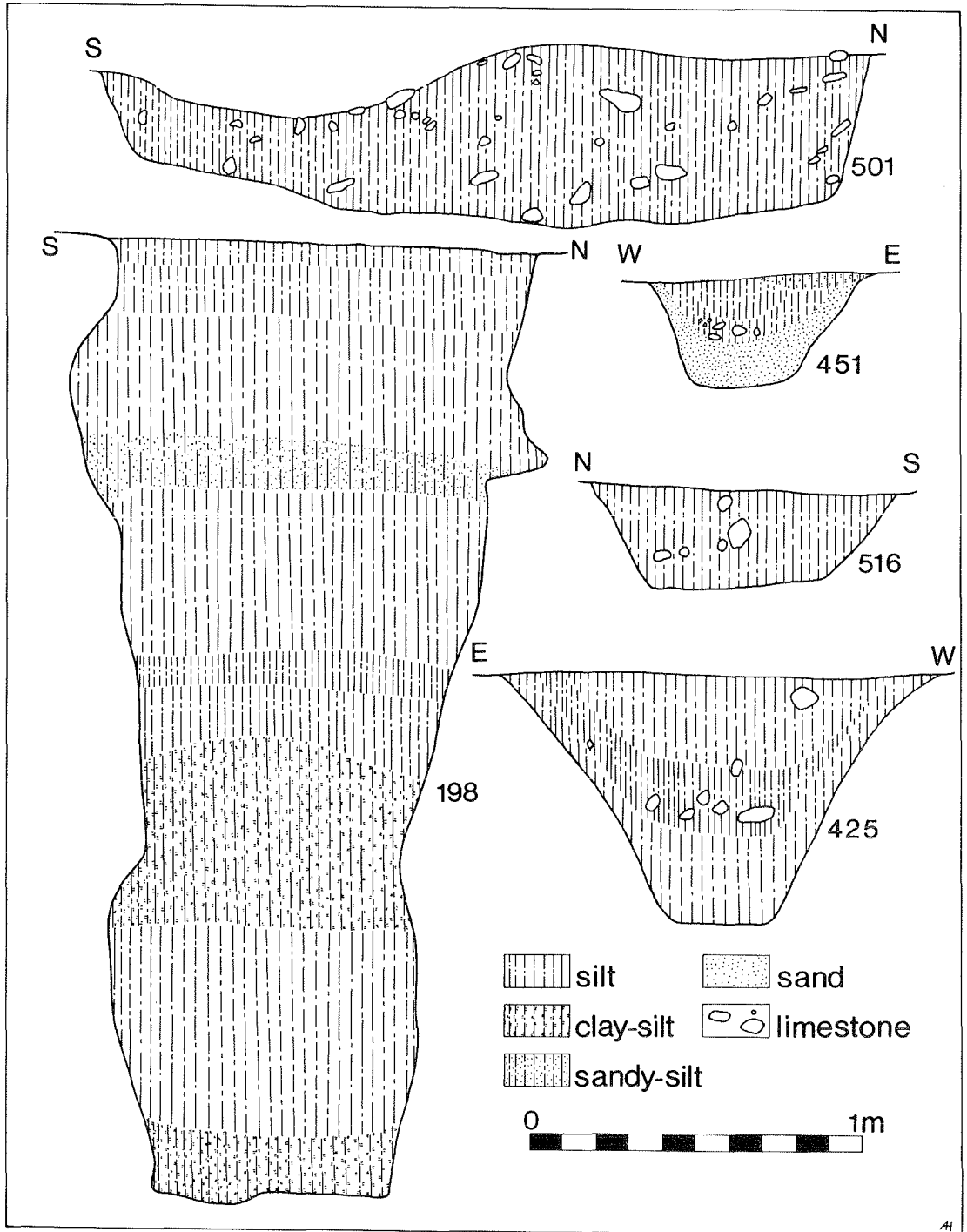


Fig. 19. Teachers' Centre, sections of medieval features (1:20).

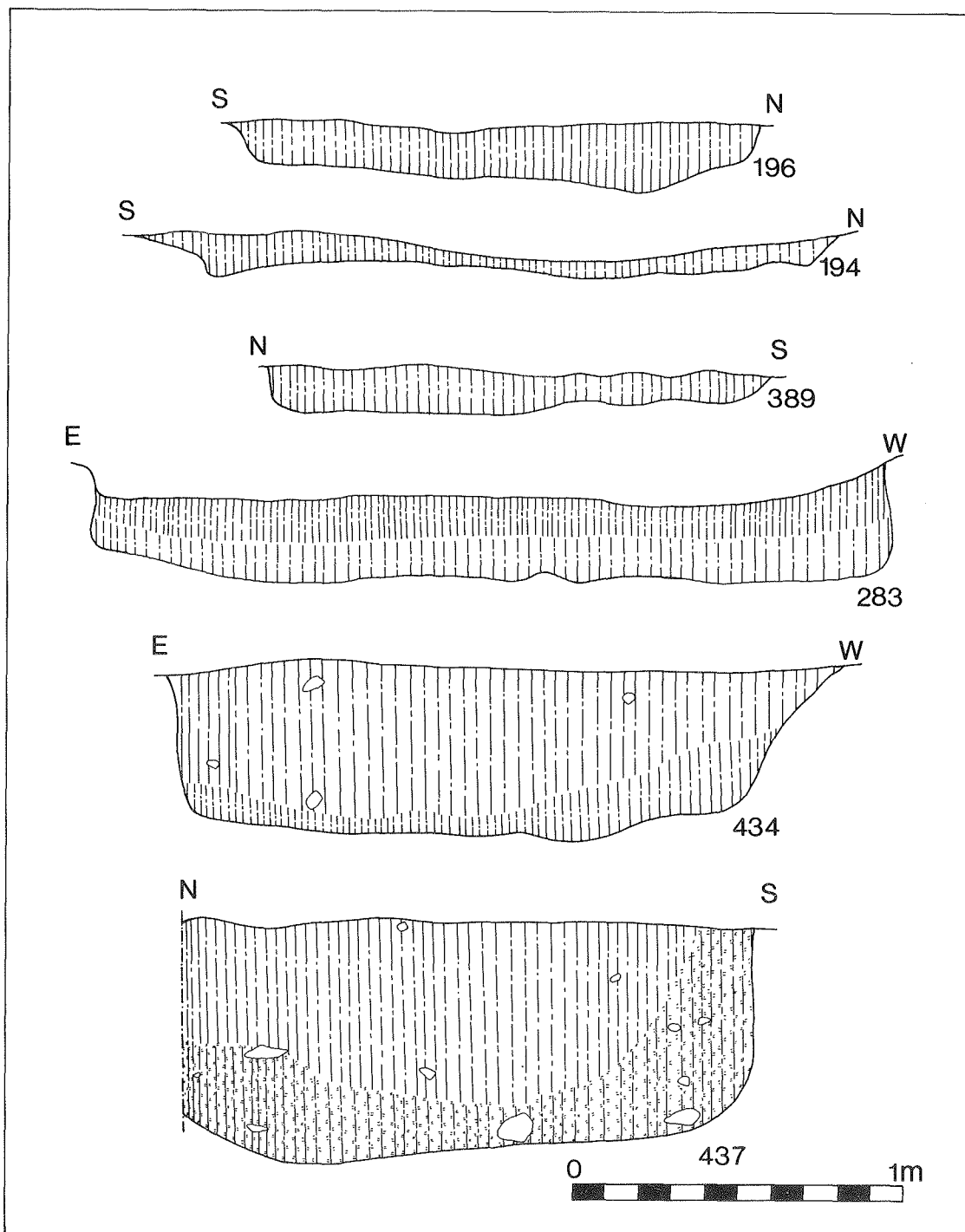


Fig. 20. Teachers' Centre, sections of medieval features (1:20).

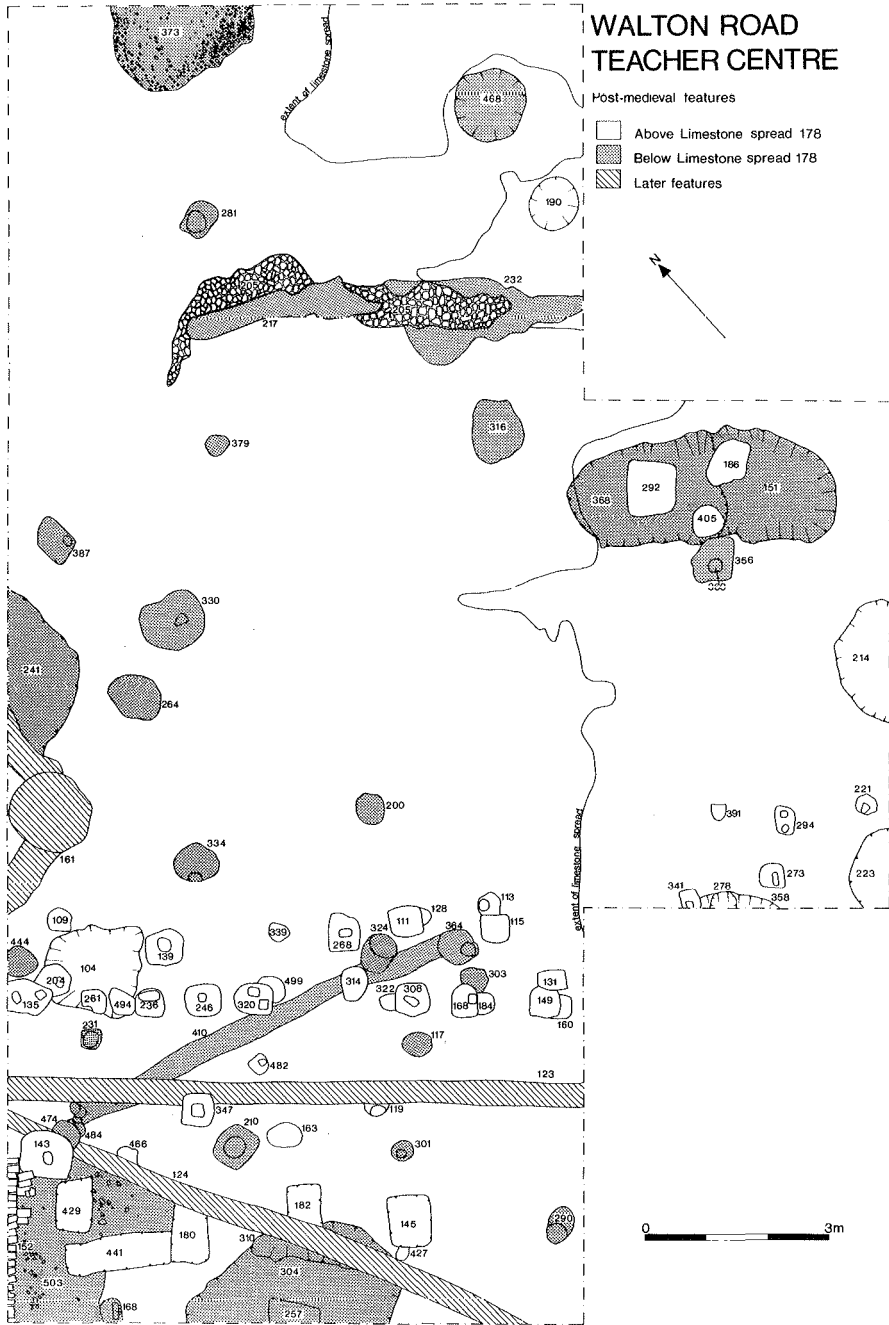


Fig. 21. Teachers' Centre, post-medieval features.

timber-framed building running to the south-west.

Many randomly distributed postholes and shallow scoops lay above and below the limestone spread (178). Some of those below contained limestone rubble fills and were possibly filled in contemporarily with the laying down of the rubble.

The Pottery by Jane Evans

The pottery from the site will be discussed by period. The contribution on the Roman pottery is by Stephen Benfield and the Bronze Age pottery was identified with the assistance of Ann Ellison.

A total of 5,565 sherds of pottery, with a total weight of 48kg, were recovered during the Teachers' Centre excavation. As can be seen in Table 21, the pre-medieval pottery comprised less than 10% of the assemblage by weight. As it was all residual in later contexts and generally very fragmentary a detailed study was not made.

Table 21. Pottery from the Teachers' Centre, Walton Road. by weight (g).

Period	Number	Percent	Weight	Percent
Bronze Age	10	0.2	56	0.1
Iron Age	538	10.0	2,524	5.0
Roman	297	5.0	1,846	4.0
Saxon	56	1.0	270	0.5
Medieval	3,954	71.0	37,315	78.0
Post-Medieval	707	13.0	5,943	12.0
Uncertain	12	0.2	134	0.28
Total	5,565		48,089	

The Bronze Age Pottery

Only 10 sherds of Bronze Age pottery were found, all residual. Eight of these had affinities with the Early Bronze Age pottery from the Walton Lodge site, being fired black internally and red/buff externally. Only five sherds were decorated, four of which are illustrated, all body sherds (Fig. 22:1-4). The decoration on one sherd (Fig. 22:1) was distinctive in that it combined finger-impressed decoration of the Walton Lodge Middle Bronze Age ware with the linear combed motif associated at Walton Lodge with the Early Bronze Age decorated sherds. One sherd (Fig. 22:3) was identified as Middle Bronze Age, having the characteristic cordon decoration and straight-sided profile, and one sherd was thought to be late Bronze Age/Early Iron Age.

1. Coarse flint fabric (P1) with finger-impressed and linear tooth-combed decoration. Int 2.5Y 4/0 dark grey, ext 7.5YR 5/4 brown. (SF 1195, fill 480, pit 437).
2. Grog-tempered fabric, decorated with multiple incised lines. Int 2.5Y 3/0 very dark grey, ext 5YR 5/6 yellowish red. (SF 1201, medieval layer 503).
3. Shelley fabric (P 12). Raised cordon and impressed finger-nail decoration. Int/ext 5YR 6/6 reddish yellow, core 10YR 5/3. (SF 1187, fill 424, medieval 425).
4. Fine flint fabric (P2) with impressed finger-nail decoration. Int 7.5YR 5/4 brown. Core and ext 10YR 4/1 dark grey. (SF 1204, fill 436, medieval pit 437).

The Iron Age Pottery

A total of 544 sherds were identified as Iron Age, all of which were residual in later contexts and too fragmentary for illustration. It is possible that some of the undecorated flint and calcareous-tempered sherds may in fact be Bronze Age in date, but the absence of datable forms or decoration makes their identification impossible.

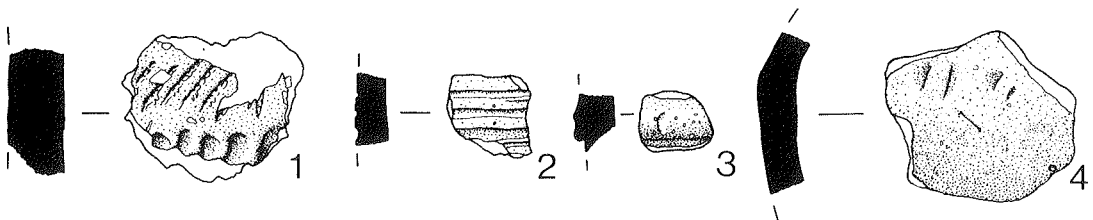


Fig. 22. Teachers' Centre, Bronze Age pottery.

The Fabrics

The Iron Age pottery was divided into fabric groups as follows:

Table 22. The Iron Age Pottery by fabric group.

<i>Fabric Group</i>	<i>Number</i>	<i>Percentage</i>
Grog-tempered	249	46
Flint-tempered	121	22
Calcareous	135	25
Sandy	39	7

Dating

The relatively high percentage of grog-tempered wares and the presence of at least three sherds of Aylesford-Swarling type ware suggested that this pottery was Late Iron Age, comparable with Phase II pottery at Berton (Knight 1986, 17–22), and later Middle Iron Age material from George Street, Aylesbury (Allen and Dalwood 1983, 14–15) which contained no grog-tempered pottery.

Decorative Techniques

All seventeen decorated sherds had single or multiple incised lines and, with the exception of two shell-tempered sherds were all made in grog-tempered fabrics.

The Forms

No reconstructable profiles were present, and only five flat bases and nineteen rims were found. The rims were generally simple rounded forms, with only two beaded and one simple flattened rim as exceptions. There were three very fragmentary rims from large storage jars but the remaining rims were thought to be from smaller jars and bowls. There was one convex "Belgic" pot lid with incised decoration, comparable to examples from Berton (Knight 1986, fig. 29; fiche 6–8 A9–14).

The Roman Pottery

by Stephen Benfield

The Roman pottery comprised 293 sherds (14 rims), mostly small and dominated by grey wares, mostly from jars. The material appeared to extend over the whole Roman period. There were sherds of Late Iron Age affinity and one certain product of the Verulamium kilns. Two chips of plain Samian were of Central Gaulish

manufacture, but the forms could not be distinguished.

The third and fourth centuries saw the appearance of products from the Oxford kilns and these were all represented, including red and brown Colour-Coat, Parchment Ware, white Colour-Coat and probably burnished oxidised wares.

Recognisable forms included Young (1977) types C97 (*mortaria* from the later third to fourth centuries) and WC5 (*mortaria* from the late third century). Also present were sherds of the later third to fourth centuries: grey-cored storage jars, common over the East Midlands. None of the pottery is illustrated.

The Saxon Pottery

The fifty-seven sherds of Saxon pottery were all residual in later contexts and very fragmentary. There were only three rims, none of which are illustrated, and no decorated sherds. The pottery was divided into fabric groups based on Walton Lodge fabric series, as shown in Table 23.

Table 23. The Saxon Pottery by fabric group.

<i>Fabric Group</i>	<i>Number</i>	<i>Percentage</i>
Chaff-tempered	26	46
Quartz-tempered	22	39
Quartz + Chaff-tempered	3	5
Calcareous	3	5
Too small to identify	3	5

The Medieval Pottery

A total of 3,945 sherds were recovered, of which 2,916 (74%) came from nine sealed features. The pottery from these features was studied in some detail and dated with the assistance of M. Farley, based on the Oxford Archaeological Unit classification (Halpin and Mellor 1977).

Fabrics

The pottery was divided into three main fabric groups: sand and quartz, calcareous, and flint, which correlated with Yeoman's Groups I, II, and III (Yeoman 1983, 20–4). The sand and quartz fabrics were then subdivided into coarser and unglazed wares, and the oxidised

Table 24. Medieval pottery types by percentages.

Feature	Date	Sand and Quartz Unglazed Coarse Ware	Calcareous Coarse Ware	Flint Coarse Ware	Tripod Pitcher Ware	Glazed Brill/ Boarstal Ware	Total Sherds
Pit 434	C11 Early C12	30	67.0	1	1.0	0.2	1419
Pit 283	C12	45	47.0	6	0.17	0.17	583
Pit 437	C12	50	47.0	1	—	0.56	177
Ditch 516	C12	100	—	—	—	—	12
Gully 451	C12	100	—	—	—	—	4
Gully 425	C12	100	—	—	—	—	24
Gully 503	C11/C12	100	—	—	—	—	13
Well 198	C13	15	0.5	2	—	82.00	593
Pitt 501	C13	82	7.0	11	—	—	104

glazed wares typical of the Brill/Boarstall kilns. There were only three sherds of St Neots-type ware and sixteen sherds of Tripod Pitcher ware. The relative percentages of the various fabric groups within the features are shown in Table 24.

Manufacture

It proved difficult to distinguish well-made hand-rotated from wheel-thrown pottery. However, the coarse unglazed sand and quartz-tempered wares appeared to be generally wheel-thrown, with the production of hand-made wares being higher in the earlier features. The hand-made pottery tended to be in coarser quartz-tempered fabrics whereas the wheel-thrown wares were in finer sandy fabrics. The calcareous fabrics were generally hand-made, but there also appeared to be some wheel-thrown wares, as was the case with Yeoman's Aylesbury Group I fabrics (*ibid.*). The flint fabrics could also be divided into coarse hand-made wares and wheel-thrown wares with finer flint inclusions, both of which appeared to be present in small numbers in all periods.

Decorative Techniques

The decoration on the eleventh to twelfth-century pottery consisted of combing, fingering and applied thumbled strips. As the pottery was fragmentary, and pottery of this date is sufficiently well illustrated elsewhere, very little is illustrated here. The few examples of Tripod Pitcher ware with applied thumbled strips were also too small for illustration. The decoration

on the thirteenth-century pottery is typical of the Brill/Boarstall kilns: applied strips (plain or iron-stained, sometimes with rouletting), horizontal grooves, and handles with slashed grooves or stab marks.

Forms

The eleventh and twelfth-century pottery comprised entirely coarse-ware cooking pots, while the assemblage of thirteenth-century pottery from the well (198) was composed largely of jugs. Of the latter, three were biconical and one globular (Fig. 25).

Illustrated Medieval Pottery

Eleventh/Early Twelfth-century Pottery. Pit 434 (Fig. 23:5-24)

- Upright rim and handle cp, diam. indet. Flint-fab., fired 2.5YR reddish brown throughout with ext patches of sooting. An almost identical pot was found at the 1905 Walton Road excavations. (Cocks 1909, 291, pl. 2) (fill 423).
- Rim of cp, diam c.160mm. Calcareous fab., 2.5Y 3/0 very dark grey throughout (fill 406).
- Upright rim of cp, with combed dec. diam c.160mm. Calcareous fab., fired 2.5Y 3/0 very dark grey throughout. Some crude combing below neck (fill 339).
- Rim of lugged pot, diam 220mm. Sandy fab., fired 5Y 5/1 grey throughout with patches of sooting ext. (fill 422).
- Everted rim of wheelmade cp, diam c.280mm. Sand fab., fired 2.5Y 4/0 dark grey throughout. Fingered dec. along top of rim (fill 423).
- T-shaped rim with combed dec., diam 199mm. Calcareous fab., fired 5Y 5/3 reddish-brown int. and ext., core 5Y 5/1 grey (fill 435).
- Rim of bowl, possibly from Chilterns source, diam 220mm. Calcareous fab., fired 10YR 6/4 light yellowish brown int. and ext., core 2.5 YR 4/0 dark grey (fill 435).

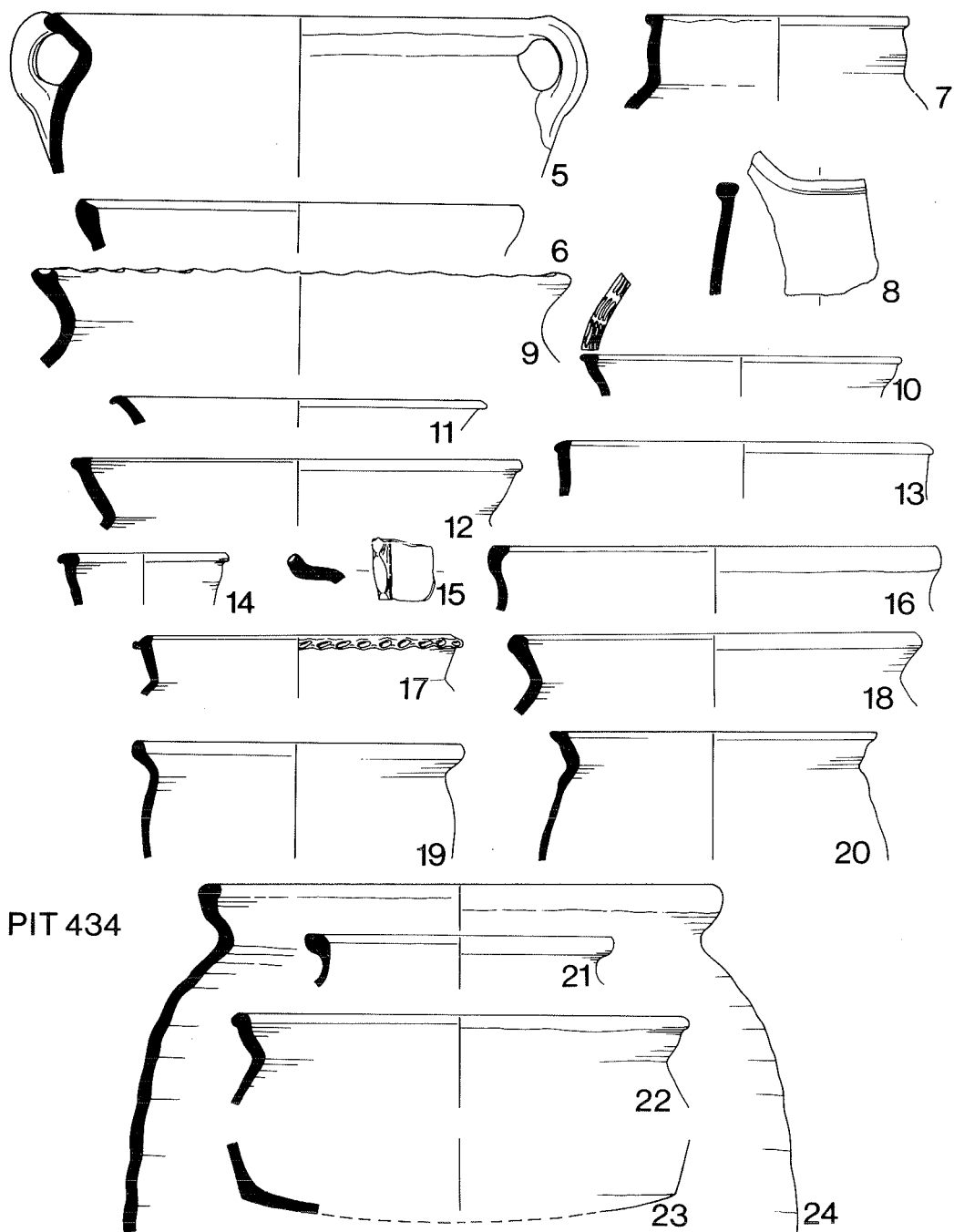
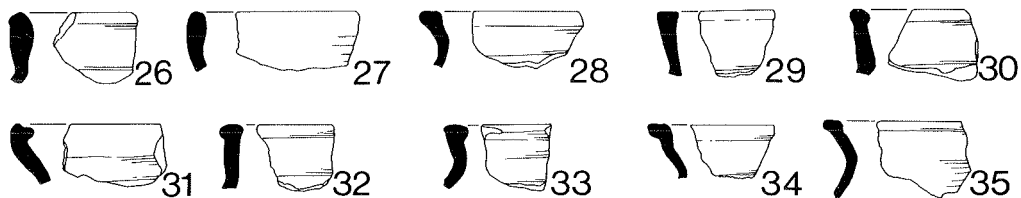
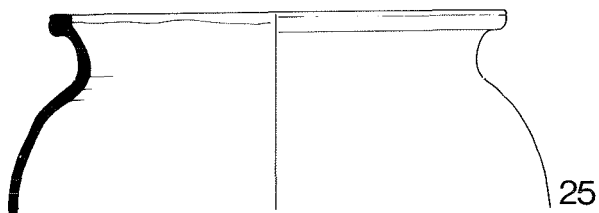


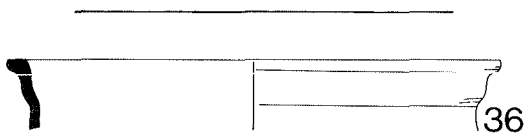
Fig. 23. Teachers' Centre, medieval pottery from pit 434 (1:4).

12. Upright rim c.260mm diam. Sandy fab., fired 2.5YR 6/2 light brownish grey int. and ext., core 10YR 6/4 yellowish brown (fill 442).
 13. Upright rim of handmade pot, diam. c.210mm. Coarse flint fab., fired 5YR 4/4 reddish-brown to 2.5Y 4/0 dark grey ext., int. and core fired 2.5Y 4/0 dark grey (fill 442).
 14. Jug rim, possibly from Chilterns source. Upright T-shaped rim, diam. c.100mm. Calcareous fab., fired 5Y 5/1 grey throughout (fill 442).
 15. Rim of cp, with thumbing along upper edge, diam. indet. Sandy fab., fired 5YR 65/6 reddish yellow throughout (fill 442).
 16. Upright rim, diam. 260mm. Calcareous fab., fired 7.5YR 5/4 brown int., 10YR 4/2 dark greyish brown ext. core 2.5YR 4/0 dark grey (fill 442).
 17. Upright rim with fingering along outer edge, diam. c.170mm. Sandy fab., fired 10YR 5/2 greyish brown int., 2.5YR 2/0 black ext., core 5Y 6/2 grey (fill 461).
 18. Upright rim, diam. c.230mm. Shelly fab., fired 7.5YR 6/4 light brown interior., 5Y 5/1 grey ext., core 5Y 5/0 grey (fill 461).
 19. Upright rounded rim, diam. c.180mm. Shelly fab., fired 2.5Y 5/2 greyish brown int., 10YR 4/1 dark grey ext., core 2.5Y 3/0 very dark grey (fill 461).
 20. Upright flat-topped rim, diam. c.180mm. Shelly fab., fired 5YR 5/4 reddish brown int., 7.5YR 5/4 brown ext., core 5Y dark grey (fill 461).
 21. Everted rim of pot, diam. c.180mm. Shelly fab., fired 2.5Y 3/0 very dark grey ext./int., core 2.5Y 5/2 greyish brown (fill 461).
 22. Upright rounded rim, diam. c.260mm. Shelly fab., fired 5Y 5/4 reddish brown int., 2.5Y 5/2 greyish brown ext., core 2.5Y 6/0 grey (fill 442).
 23. Slightly sagging pot base, diam. c.220mm. Calcareous fab., fired 10YR 5/1 grey int., 2.5Y 3/0 very dark grey ext., core 2.5Y 5/0 grey (fill 423).
 24. Reconstructed profile of handmade cp, with upright rim, diam. c.270mm. Calcareous fab., fired 2.5Y 4/0 dark grey int. and core, 2.5Y 5/2 greyish brown externally with soot patches (fill 423).
- Twelfth-century Pottery. Pit 283* (Fig. 24:25–35)
25. Flat-topped rim of wheel-turned cp, diam. c.240mm. Flint fab., fired 7.5YR 6/4 light brown int., 2.5Y 5/2 greyish brown ext. and core (fill 398).
 26. Upright pot rim, diam. indet. Calcareous fab., fired 10YR 6/2 light brownish grey int. and ext., 2.5Y 5/2 greyish core (fill 398).
 27. Rim of bowl(?) diam. c.130mm. Sandy fab., fired 10YR 4/1 dark grey throughout (fill 398).
 28. Upright rim, diam. c.180mm. Sandy fab., fired 10YR 5/2 greyish brown int., 10YR 3/1 very dark grey ext., core 2.5Y 3/0 very dark grey (fill 383).
 29. Upright rim, diam. c.290mm. Sandy fab., fired 5Y 4/1 dark grey throughout (fill 383).
 30. Upright rim with finger impressions on inside edge, diam. indet. Sandy fab., fired 2.5Y 4/0 dark grey throughout (fill 398).
 31. Rim with fingered internal flange, diam. c.120mm. Sandy fab., fired 7.5YR 5/4 brown int./ext., 5Y 6/1 grey core. Ext., sooting (fill 384).
32. Upright rim, diam. c.190mm. Calcareous fab., fired 10YR 5/1 grey int./ext., 5Y 3/1 very dark grey core. Ext. sooting (fill 383).
 33. Upright rim, diam. indet. Calcareous fab., fired 7.5YR 5/2 brown int., 5Y 5/1 grey ext. and core (fill 383).
 34. Upright rim with ext. flange, diam. c.200mm. Sandy fab., fired 5Y 6/1 grey throughout (fill 399).
 35. Slightly everted rim with finger impression on inner edge, diam. c.160mm. Sandy fab., fired 5Y 5/1 grey throughout (fill 399).
- Eleventh to Twelfth-century Pottery, Pit 437* (Fig. 24:36–40)
36. Upright rim, diam. 250mm. Shelly fab., fired 2.5Y 6/2 light brownish grey int. and core, 5YR 5/4 reddish brown ext. (fill 436).
 37. Upright rim, diam. indet. Shelly fab., fired 10YR 6/2 light brownish grey int./ext., 2.5Y 4/0 dark grey core (fill 452).
 38. Upright rim with int. finger impressions, diam. c.170mm. Sandy fab., fired 7.5YR brown int., 5YR 5.2 reddish grey ext., core 5Y 6/1 grey (fill 480).
 39. Upright rim, diam. c.210mm. Shelly fab., fired 7.5R 4/0 dark grey int./core, 2.5Y 5/2 greyish brown ext. (fill 436).
 40. Upright rim with finger impressions, diam. indet. Flint fab., fired 7.5YR 3/0 very dark grey throughout (fill 452).
- Thirteenth-Century Pottery, Pit 501* (Fig. 25:41–3)
41. Rim, diam. c.250mm. Sandy fab., fired 5Y 5/1 grey throughout (fill 500).
 42. Rim, diam. c.130mm. Sandy fab., fired 5YR 4/1 dark grey int., 5Y 4/1 dark grey ext., 5YR 4/6 yellowish red core (fill 500).
 43. Wheel-turned rim, diam. c.210mm. Flint fab., fired 10YR 5/1 grey int., 2.5Y 3/0 very dark grey ext., 7.5YR 5/4 core (fill 500).
- Eleventh to Twelfth-century Pottery, Ditch 516* (Fig. 24:44)
44. Sherd of colander base with two surviving perforations. Calcareous fab., fired 10YR 6/3 pale brown int., 7.5YR 5/4 brown ext., 5Y 5/1 grey core (SF 1199, fill 513).
- Thirteenth-century Pottery, Well 198* (Figs. 25 and 26)
45. Biconical jug, complete profile, rim diam. c.110mm. The strap handle has four vertical slashes above a single row of oblique slashed grooves, and double finger-holes at its joints below the rim. The mottled green glaze is absent on part of the neck and below the belly. Flat base with foot ring. Oxidised sandy fab., fired 7.5YR 7/6 reddish yellow throughout (fill 421).
 46. Biconical jug, lower part only, with foot ring and concave base, diam. c.130mm. Decorated with alternate plain and iron-stained strips, the plain ones being rouletted above the carination. Streaky mottled green glaze absent on lower belly. Oxidised sandy fab., fired 7.5YR reddish yellow throughout (fill 421).
 47. Jug rim, possibly belonging to jug 46 but not joined. Rim, pinched spout, diam. c.100mm. Mottled green glaze starting on neck. Oxidised sandy fab., fired approximately 10YR 7/4 very pale brown throughout

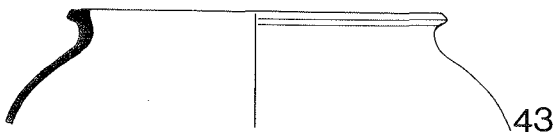
PIT 283



PIT 437



PIT 501



DITCH 516

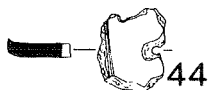


Fig. 24. Teachers' Centre, medieval pottery: 25-35, from pit 283; 36-40, from pit 437; 41-3, from pit 501; 44, from ditch 516 (1:4).

WELL 198

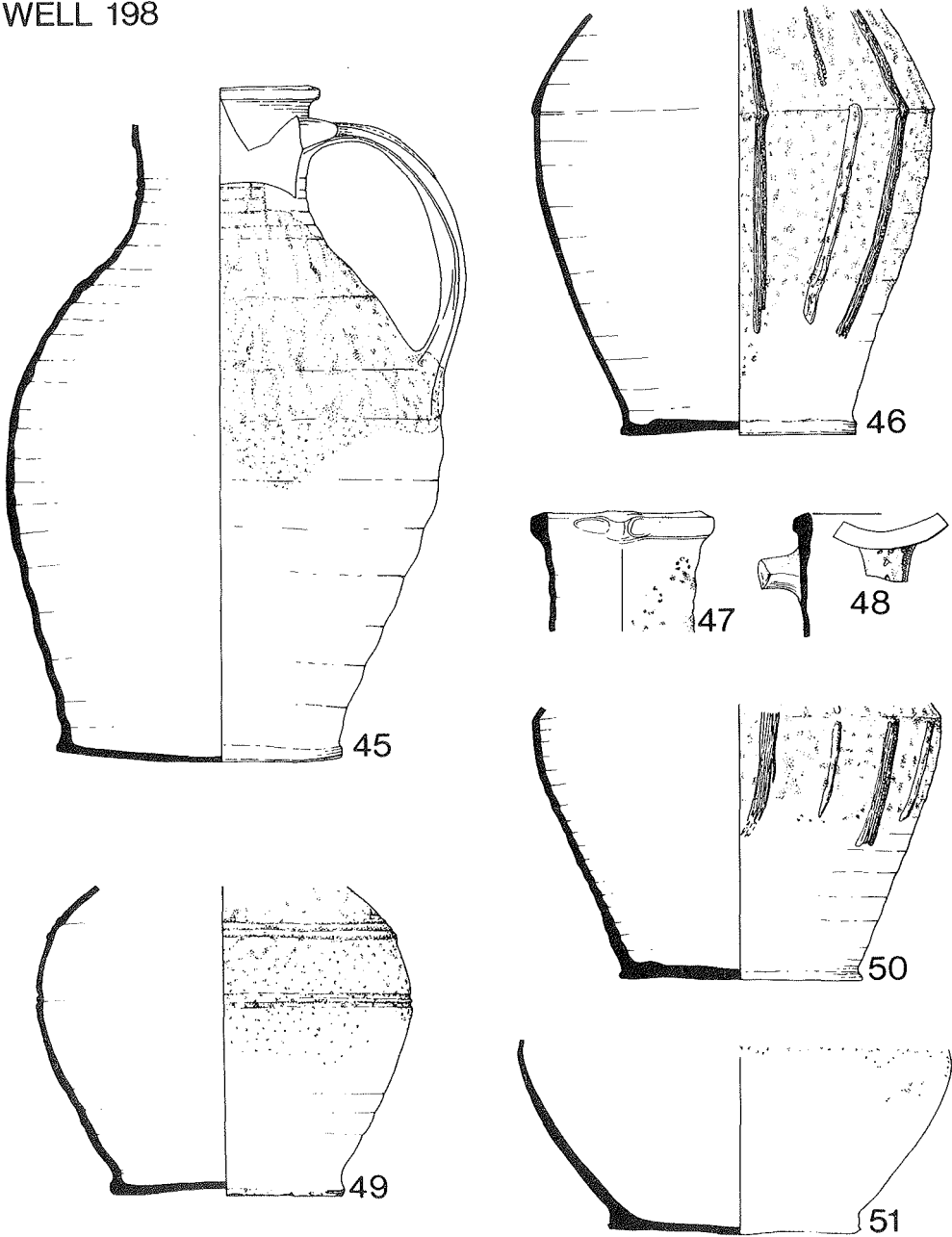


Fig. 25. Teachers' Centre, medieval pottery from well 198 (1:4).

- with reduced patches 5Y 6/2 light olive grey (fill 421).
48. Jug rim, diam. c.100mm. Also possibly from jug 46 but not joined. Rim and rod handle, dec. with a single line of stab marks. Oxidised sandy fab., fired approximately 10YR 7/4 very pale brown throughout, with reduced patches 5Y 6/2 light olive grey (fill 421).
 49. Globular (?) jug, lower part only, with foot ring and concave base, diam. c.130mm. Dec. with three bands of horizontal grooves. Mottled green glaze absent on lower belly. Oxidised sandy fab., fired 10YR 6/4 light yellowish brown throughout (fill 421).
 50. Biconical jug, lower part only with foot ring and flat base, diam. c.130mm. Dec. with alternating plain and iron-stained strips. Mottled green glaze absent on lower belly. Oxidised sandy fab., fired 7.5YR 7/6 reddish yellow throughout (fill 421).
 51. Jug, slightly sagging base with foot ring, no apparent dec. Mottled green glaze finished above the lower belly. Oxidised sandy fab., fired 10YR 7/3 very pale brown throughout (fill 421).
 52. Bowl, complete profile, rim with angular overhanging flange, diam. c.300mm. Mottled green glaze on lower half int., with occasional ext. splashes of glaze. Oxidised sandy fab., fired 10YR 7/4 very pale brown throughout (fill 421).
 53. Jug, rim only with pinched spout, diam. c.100mm. Spots of green glaze around the rim with the main area of glaze beginning lower down the neck. Sandy fab., reduced int. and core, 5Y 7/1 light grey, but oxidised ext., 7.5YR 7/6 reddish yellow (fill 421).
 54. Jug, diam. c.110mm. Strap handle joined below the rim and dec. with a single row of oblique rectangular slashes. Unglazed sandy fab., oxidised 7.5YR 7/4 pink throughout (fill 421).
 55. Jug rim, diam. c.90mm. regular glossy green glaze from rim down. Oxidised sandy fab., fired 7.5YR 7/6 reddish yellow throughout (fill 421).
 56. Jug handle, rod type with single row of stab marks and mottled green glaze. Sandy fab., fired 7.5YR 6/6 reddish yellow ext. and 10YR 6/3 pale brown on the int. of the pot and the core (fill 421).
 57. Jug rim, diam. c.80mm. Regular green glaze starting on neck. Oxidised sandy fab., fired 7.5YR 5/4 brown throughout (fill 421).
 58. Base of cp, sagging, diam. c.260mm. Dec. with an applied thumb strip. Oxidised sandy fab., fired 10YR 6/4 light yellowish brown, with carbon staining ext. (fill 421).

The Post-Medieval Pottery

A total of 707 sherds of post-medieval pottery were found. As there were no early groups it was considered unnecessary to publish this material, although it was used to date features on the site.

The Other Artefacts by Jane Evans

The other artefacts at the Walton Teachers' Centre excavation comprised objects of stone,

fired clay, glass, copper alloy, iron, bone and ivory; they are discussed by material. With the exception of a post-medieval hone, a quernstone fragment, and three stamped clay pipe fragments, only objects from sealed medieval features are illustrated and described in detail. Residual finds included fragments of 'Belgic brick' and Roman flue tile. Thanks are due to Michael Oates for his comments on the worked stone and Ann Miles for her comments on the worked wood.

Stone Artefacts (Fig. 27:1-7)

The stone artefacts included two identifiable fragments of rotary quernstone and one fragment of pudding stone, the latter thought to be from a quernstone but not illustrated. There were also three hones, two spindle whorls, and one piece of worked Bath stone (not illustrated).

1. Rotary quern fragment, Niedermendig lava. Thickness 21mm, original diam. indet. The flat grinding surface has been worn smooth with use. (SF 1014, fill 185).
2. Rotary quern fragment, Niedermendig lava, 30mm thick, diam. indet. (SF 1203, fill 423, medieval pit 434).
3. Hone, fine porous sandstone, 160mm long (broken). Worn mostly on one face but with signs of wear on two other faces. The wear is accompanied by brown staining which is probably rust. A similar example was found in a post-medieval context at George Street, Aylesbury (Allen and Dalwood 1983, 45, fig. 21). (SF 1101, fill 319).
4. Hone, pebble-shaped schist, 71mm long and perforated for suspension at the upper end. Signs of wear mainly down one side. (SF 1136, fill 383, medieval pit 283).
5. Hone of Norwegian schist, 55mm long (broken) and perforated at one end for suspension. It is very similar to early medieval schist hones excavated in London (London Museum 1940, 293, pl. XCIV). (SF 1137, fill 435, medieval pit 434).
6. Spindle-whorl, conical, lathe-turned, of Totternhoe Clunch, diam. 42mm. A similar limestone spindle-whorl found at St Peter's Street, Northampton, was thought to be a Late Saxon type (Oakley and Hall 1979, fig. 126:3). (SF 1133, fill 406, medieval pit 434).
7. Biconical spindle-whorl, made of brown shale (possibly Kimmeridge), with external diam. of 9mm. (SF 1133, fill 439, medieval pit 434).

Fired Clay Artefacts (Fig. 27:8-10; Fig. 28:12-15)

In addition to the artefacts listed in the catalogue below there were 76 fragments of miscellaneous burnt or fired clay (10 of which were from sealed medieval contexts) and 119

WELL 198

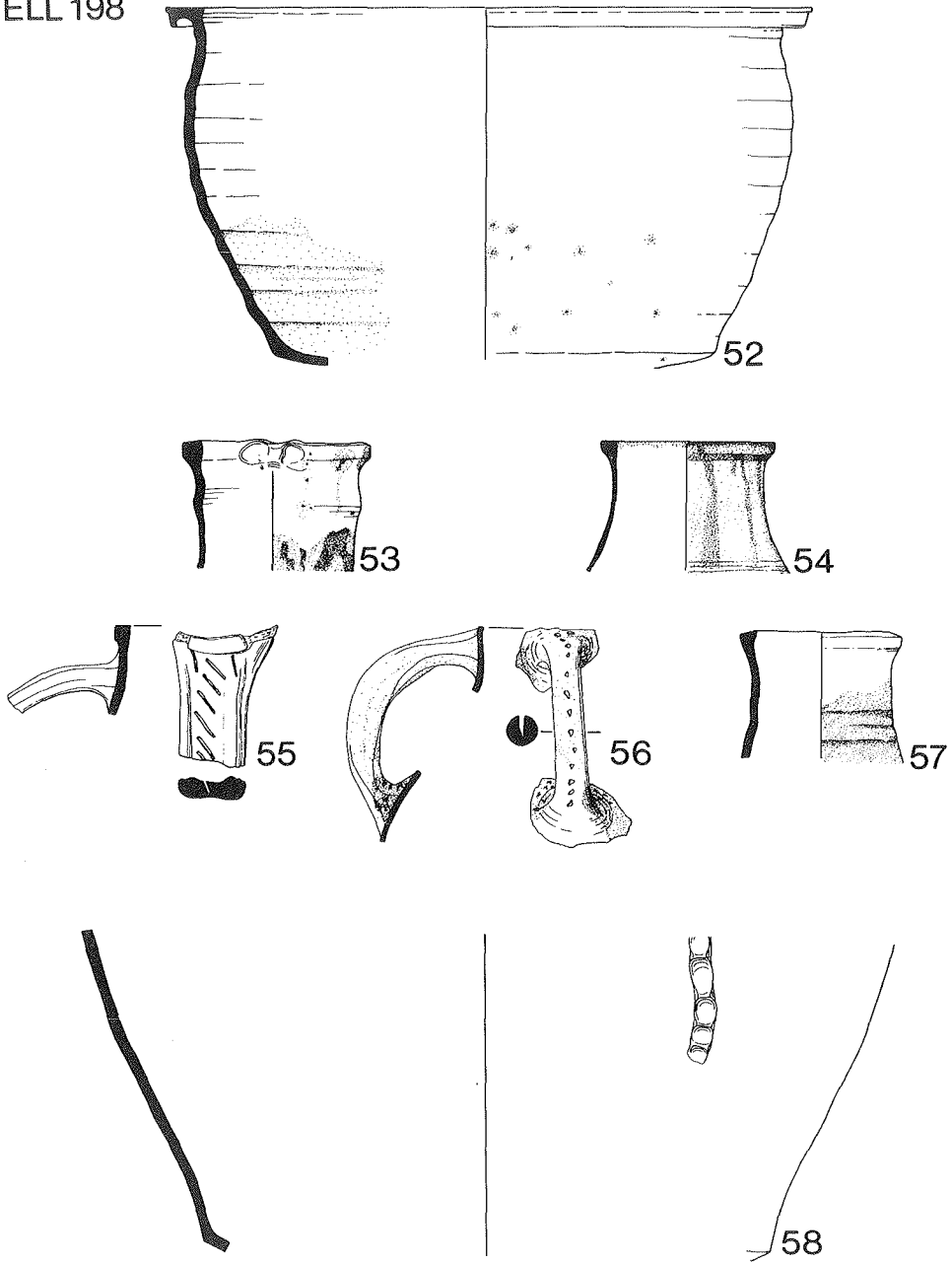


Fig. 26. Teachers' Centre, medieval pottery from well 198 (1:4).

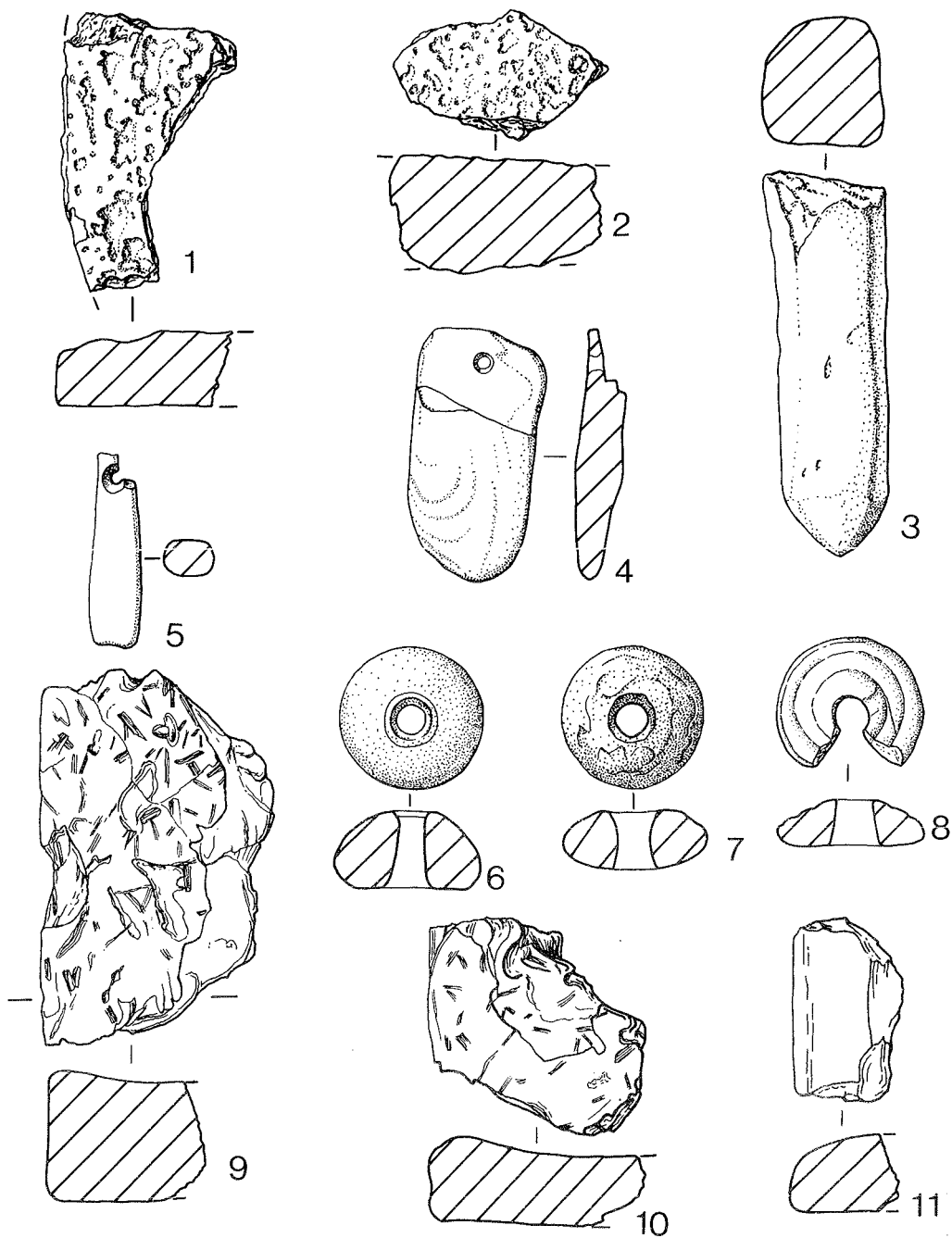


Fig. 27. Teachers' Centre, artefacts: 1-7, stone; 8-11, fired clay (1:2).

fragments of daub (96 from sealed medieval contexts). Nineteen pieces of residual 'Belgic brick' were positively identified where the outer surfaces had survived. They were all made in an organically-tempered fabric and therefore it is possible that smaller fragments may have been misidentified as burnt daub. All the surviving edges were angular, suggesting the use of a simple mould (Farley *et al.* 1981, 72).

8. Spindle-whorl, broken, in fine grey calcareous fab. and probably modelled around a rod, diam. 40mm. (SF 1135, fill 406, medieval pit 434).
9. Belgic brick, 40mm thick (max.), angular edge fragment in organically tempered fab. Core 7.5YR 5/4 with surfaces varying from 7.5YR 5/4 to 10YR 4/1. Comparable with the thicker examples found at Bierton (Allen 1986, 15–16). (SF 1206, fill 513; ditch 516).
10. Belgic brick, 24mm thick (max.), crude angular fragment in organically tempered fab. 10YR 6/4 throughout. (SF 1205, layer 503).
11. Belgic brick, 22mm thick (max.), angular edge fragment in dense sandy fab. with some organic temper, ext. 7.5YR 5/4 core 10YR 5/1. (SF 1209, medieval pit 434, fill 406).
12. Roman box-flue tile with knife/comb keying, 15mm thick. (SF 1184, fill 399, medieval pit 283).
13. Roman box-flue tile with knife/comb keying, 16mm thick. (SF 1213, fill 398, medieval pit 283).
14. Thumb pot or crucible, rim diam. c.80mm. Although possibly a crucible there is no residue or vitrification visible. Quartz fab., fired 7.5YR 5/2 ext., and 10YR 4/1 to 10YR 6/3 int. (SF 1212, fill 419, medieval well 198).
15. Counter, made from the base of a Roman grey ware vessel, diam. 49mm. The central perforation appears to be the result of a burnt out inclusion rather than a deliberate feature. Similar counters were found at Walton Vicarage (Farley 1976, 193–6, fig. 142.3) where it was suggested that they were probably gaming pieces, although they also could have been used in some polishing process, such as leather working. (SF 1175, fill 436, medieval pit 437).

The Clay Pipes (Fig. 28:16–18)

There were 63 fragments of clay pipe, only three of which were stamped. There were four unreconstructable fragments of bowl and no complete bowls.

16. Fragment, stem and bowl. The base is stamped with the initials E.K. within a heart, indicating the Castle Street (Aylesbury) kiln (Moore 1979, 123–40). An incised groove around the stem about 20mm from the bowl. (SF 1151, fill 191).
17. Spur with the initials W.N. The spur type and narrow bore (1.5mm) suggest a nineteenth-century date, and it is possible that the initials refer to William Newall who

is listed in the Eton Parish Register as a pipe maker in 1839 (Oswald 1975, 161). (SF 1152, unstratified).

18. Stem fragment stamped J.W. within a heart. There is a similar stamp on a pipe at Buckinghamshire County Museum (Acc. No. 248, 1908) which differs only in that it lacks a bar on the J (L. Babb, *pers. comm.*). It is impossible to date the fragment but a pipe maker named Jeremiah Wetherby (Wetherly) is listed in the Aylesbury Parish Register of 1727 (Oswald 1975, 1610). (SF 1152, unstratified).

The Glass (Fig. 28:19)

A total of 451 fragments of glass were recovered, all of which were post-medieval with the exception of the linen polisher described below.

19. Linen polisher, bun-shaped and polished, convex on the lower working surface and concave on the upper surface. Made of coarse black glass, possibly glass slag or cullet, 35mm thick (max.), diam. 80mm, comparable to examples found at St Peter's Street, Northampton (Oakley and Hunter 1979, 296–7). The upper surface shows signs of the twisting and settling that took place during manufacture, and the break where the narrow tail of glass was cut off as described by Holden (1963, 162–3). Similar glass polishers were found in Late Saxon pits at Thetford, Norfolk (Harden 1984, 116) but an example at Therfield, Hertfordshire, came from an eleventh to twelfth-century context (Biddle 1964, 81–2, fig. 23:9) and the type continued into the thirteenth century, as at Hangleton, Sussex (Holden 1963, 162–5). (SF 1104, fill 410, medieval pit 434).

Copper Alloy and Iron Artefacts (Fig. 28:20–1)

Twelve copper alloy artefacts were found, 11 of which were late post-medieval or modern (not illustrated). There were 645 pieces of iron, only 18 of which were from sealed medieval layers. Radiographs were made of these, which proved to be nails or unidentifiable fragments, with one exception (see below).

20. Buckle, D-shaped loop, 37mm wide with straight hinge bar, cast in one piece, pin missing. Patches of surviving gilding indicate that the entire buckle was originally gilded and the upper surface is decorated with an incised linear motif. Possibly a later form of more highly ornamented buckles (J. Cherry, *pers. comm.*; cf. Fingerlin 1971, 36–8) and probably thirteenth-century in date. (SF 1127, fill 501, medieval pit 500).
21. Iron knife blade approximately 75mm in length and 22mm in width (max.). Rounded end, tang broken. (SF 1130).

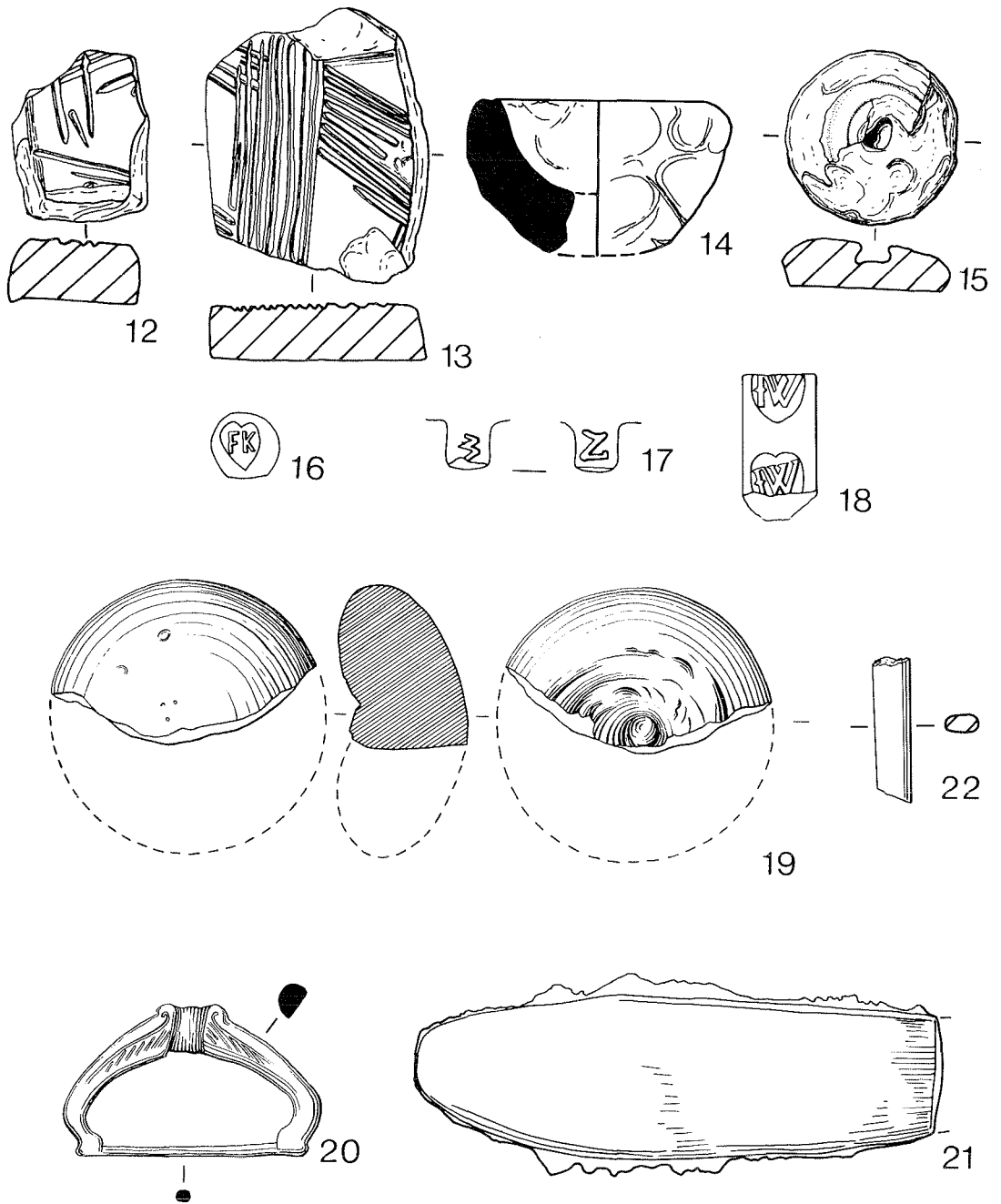


Fig. 28. Teachers' Centre, artefacts: 12–15, fired clay (1:2); 16–18, clay pipe (1:1); 19, glass; 20, copper alloy; 21, iron; 22, worked bone (1:2).

The Bone Artefacts (Fig. 28:22)

Three pieces of worked bone were recovered including a post-medieval knife handle and a button (not illustrated).

- 22. Tool handle, highly polished piece of bone tapering to one end, broken at both ends, length 41mm. No evidence of hollowing out to accept a tang and one edge is marked with a series of nicks. (SF 1095, fill 275, post-medieval pit 176).

The Animal Bone
by Peta Sadler

Material and Method

The bone was generally well preserved and was collected by hand with enough care to recover many very small fragments and complete rat and amphibia bones. Only the medieval bone was studied. 1,587 bones were examined, of which 33% were identified; 195 dated to the eleventh and twelfth centuries, 250 to the twelfth century, 67 to the thirteenth century, and 8 'medieval'.

The survival of bone from different contexts was examined. The material was collected from two ditches, two gullies, and a post hole (which were grouped together and referred to as 'ditches'), four pits, two general layers, and one well.

The method of study was as described above for Walton Lodge. When counting the fragments, pieces of bone which fitted together were counted as one and loose epiphyses were not counted separately from diaphyses if both were present.

The minimum number of individuals (MN) of each species was assessed for each feature, not each context, and took account of age as well as the number of each bone element.

The fact that all parts of the main domestic animals are represented (Table 25) suggests that they were killed locally. There is no evi-

Table 25. Anatomical analysis of the mammals present.

	<i>Cattle</i>				<i>Sheep</i>				<i>Pig</i>				<i>Horse</i>			<i>Dog</i>		<i>Other</i>		
	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	a	b	c		
Horn core	-	3	-	-	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
Cranium	2	7	1	1	1	4	-	-	3	5	-	1	-	-	-	-	-	-	-	
Maxilla	-	1	-	-	3	1	-	-	2	-	1	-	-	-	-	1	-	-	-	
Mandible	6	10	3	-	6	10	1	-	2	2	3	-	2	-	1	-	-	-	-	
Up. teeth	5	10	-	-	20	21	1	-	2	2	-	-	-	-	-	-	-	-	-	
L. teeth	7	7	1	-	8	13	2	-	9	5	2	-	-	-	1	-	2	-	-	
Atlas/Ax.	1	3	-	-	2	-	-	-	3	-	-	-	-	-	-	-	-	-	-	
Scapula	4	3	4	-	-	2	2	-	2	1	1	-	-	-	-	-	-	-	-	
Humerus	6	2	3	-	5	10	-	-	-	2	1	-	-	-	-	-	-	-	1 - T	
Radius	4	3	1	-	2	10	1	1	-	-	-	-	1	-	-	2	-	-	1 H	
Ulna	-	4	-	1	2	-	-	-	-	-	-	-	1	-	-	-	-	-	-	
Pelvis	-	1	1	-	1	3	1	-	-	-	-	-	-	-	-	-	-	-	-	
Femur	1	5	1	-	6	4	1	-	1	2	-	-	-	-	-	-	-	-	1 - R	
Tibia	2	2	1	2	7	17	3	-	-	2	1	-	1	-	-	-	-	-	-	
Astrag.	3	2	-	-	4	3	1	-	-	-	-	-	-	-	-	-	-	-	-	
Calcane.	2	1	-	-	2	1	-	1	-	-	-	-	1	-	-	-	-	-	-	
Carp/Tars	2	1	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
Metacarp.	-	3	1	1	5	9	3	-	-	-	-	-	-	-	-	-	-	-	-	
Metatars.	-	3	1	-	12	3	3	-	-	-	-	-	-	-	-	1	-	-	-	
Metapodia	1	3	1	-	1	3	1	-	-	4	1	-	-	-	-	-	-	-	-	
Phalanges	8	4	2	-	3	4	2	-	1	5	4	-	-	3	2	-	1	-	-	
Other	-	-	-	-	2	-	-	-	1	1	-	-	-	-	-	-	-	-	-	
Totals	54	78	22	5	94	120	22	2	26	31	14	1	6	3	4	3	4	1	1	1

Period a=11-12th century, b=12th century, c=13th century, d='medieval', T=Toad, H=Hare, R=Rat.

dence of goat but many of the bones are indistinguishable from sheep and may have been included in these. Also identified were 23 domestic fowl bones and 5 goose bones.

Preservation of the Bone

84% of the total bone fragments (including unidentified) came from pits, 7% from ditches, 6% from the well, and 3% from layers. It is likely that the pits were used for the disposal of rubbish and that bones were put there intentionally and thereafter left undisturbed. Those

in the well were probably thrown in when the well went out of use. All faunal samples are biased towards the denser bones but the extent of this bias depends on the degree of attrition (Maltby 1975, 5). It is often assumed that the bone from pits and wells survives better because the preservation conditions are good. At Faccombe, Netherton (Sadler 1990), a deserted manorial site subsequently used as pasture, this was so, but as can be seen in Table 26, this site was different.

Table 26. Comparison of attrition in animal bone assemblages from Walton Teachers' Centre and Faccombe, Netherton. Faccombe figures are in parentheses.

	Bone numbers		% identified		% loose teeth		% chopped		% gnawed	
Pits	(7515)	1331	(63)	31	(4.5)	24.0	(3.6)	1.0	(4.6)	8.9
Well	(-)	98	(-)	50	(-)	6.1	(-)	10.2	(-)	10.2
Ditches	(2262)	104	(51)	43	(18.5)	24.4	(10.5)	4.4	(10.7)	2.2
Ext. layers	(6124)	54	(46)	26	(17.7)	14.3	(10.4)	7.1	(12.1)	7.1

The overall picture is that the bone at Walton showed more signs of chopping and gnawing than at Faccombe and that these damaged bones did not survive well in the ditches and external layers. The chopped bone in the pits is an anomaly. The figures for loose teeth show that attrition in the well was similar to that in the Faccombe, Netherton pits but that at Walton the pits were affected as much as the ditches, suggesting that the pits were shallow enough for the bone in them to be crushed.

Representation of Main Species

The relative proportions of the identified cattle, sheep, and pig bones were compared with the relative proportions of cattle-size and sheep-size fragments in different contexts (Table 27), and the results suggest that the cattle and sheep/pig bones in the pits and the

well were equally damaged and the fragments equally preserved so that the proportions remain the same. In the layers and the ditches, however, it appears that many of the cattle fragments were so worn or damaged that they reduced in size and were added to the sheep-sized group. This wear was noted when handling the material and confirm that the bone in the pits received rather rough treatment, but that the fragments were preserved which led to a lower percentage of identification than in the ditches, where many of the fragments are likely to have been totally destroyed.

It is always possible with such a small sample that any statistics are biased but it seems that the figures for the representation of the main species are not too different from the larger medieval Walton Vicarage site (Table 28).

Table 27. The proportions of the main domestic animals.

	<i>Cattle</i>				<i>Sheep</i>				<i>Pig</i>			
	BN	%	MN	%	BN	%	MN	%	BN	%	MN	%
C11-12	54	31	5	36	94	54	5	36	26	15	4	29
C12	78	34	9	35	120	52	12	46	31	14	5	19
C13	22	38	5	42	22	38	3	25	14	24	4	33
Total including medieval	159	34	20	37	238	51	20	37	72	15	14	26

BN=number of identified bones MN=min. number of individuals

Table 28. Comparison with other sites in the same area (by percentage).

Site	Date.	N	Cattle %	Sheep %	Pig %
Walton Lodge	Saxon	381	37	46	17
Walton Vicarage	Saxon	1431	42	35	23
Walton Vicarage	Saxon/Norman	1993	36	44	20
Walton Vicarage	Medieval	1764	37	47	17
George Street	Medieval	1128	45	38	17
Walton Teachers' Centre	Medieval	469	34	51	15

N=total of identified cattle, sheep and pig bones.

Discussion of Animals Present

Cattle Age

An attempt was made to evaluate the ages of the cattle using the eruption and wear data of the teeth and the epiphysal fusion of the bones. Only one mandible, from an eleventh to twelfth-century context, had all three molars present. Using the methods of Grant (1982) a MWS of 41 was calculated which indicated a

fully mature animal over 5 years of age. Using Grigson's appendix 4 (1982, 23) and Grant's table 2 (1982, 98) estimates were made of the ages of the other dental evidence (Table 29). Seven out of the total of 11 were killed by the age of 3½ years.

Table 30 shows that most animals were killed before they reached the age of 3½–4 years, the majority being over 1½ years old, which agrees

Table 29. Cattle ages estimated from teeth.

	1½–2 years	2½ years	3½ years	4 years	+4 years
C11–12	1	1	–	1	2
C12	3	1	1	–	–
C13	–	–	–	–	1
Total	4	2	1	1	3

Table 30. Cattle epiphysal fusion data. All bones in each group, which fuse at approximately the same age, are represented in the following figures.

Approx. Age	Bone	C11–12			C12			C13			Total inc. 'med.'		
		UF	F	%F	UF	F	%F	UF	F	%F	UF	F	%F
10 month	Scapula } Pelvis }	–	–	–	0	1	100	1	1	50	1	2	67
18 month	Humerus D } Radius P } Phalanx I } Phalanx II }	1	7	87	0	2	100	1	1	50	2	10	83
2–2½ year	M/carpal } Tibia D }	1	0	0	–	–	–	–	–	–	1	0	0
3½ year	Femur P	0	1	100	2	0	0	–	–	–	2	1	33
3½–4 year	Humerus P } Radius D } Femur D } Tibia P }	2	0	0	2	0	0	0	1	100	4	2	33

with the dental evidence. The majority of the cattle at Walton Vicarage site (Noddle 1976, 277) were killed young and it is suggested that either the Walton population was large enough to need more meat than could be provided by the old breeding-stock and plough oxen, or that they could afford to buy better quality meat.

Cattle Size and Sex

So few bones provided measurements that it is not possible to compare them with other sites, except to say that none were unusually large or small. The only evidence for sexing the animals was a horn core from a twelfth-century ditch. This did not curl forward as is most usual, but curved upwards and slightly backwards. The horn core is oval in cross section, suggesting a shorthorn bull (Armitage 1982, 43) but the ox horn core 'has a more upright position and may point in a posterior direction'. One explanation for this contradiction may be that an animal which is castrated later tends to develop more male characteristics.

Cattle Butchery and Bone Working

A cattle horn core from a twelfth-century ditch had three chop marks on the shortest curve and three on the longest curve. When horn was being dealt with professionally, the material was soaked for some weeks in a tub or pit so that the keratinous horn sheath could be separated from the bony core (MacGregor 1985, 66). Only settlements of a reasonable size could have supported a local horn industry from the animals slaughtered for the day-to-day needs of the population or at periodic fairs and markets and the lengthy pre-treatment involved in horn-working seems to rule out any possibility of an itinerant phase in the development of the industry (*ibid.*, 53). It seems that instead of removing and selling the horn with the horn core, the sheath has been removed on site, without waiting for the bond

between the horn core and the sheath to rot. A second horn core base fragment from the same context also had chop marks. A thin slice of bone sawn from the proximal surface of an immature cattle tibia, and found in an eleventh to twelfth-century general layer, is most probably waste from bone working. It is unlikely that saws were used for butchery before the late eighteenth century (MacGregor 1985, 55) and not enough bone was cut off to allow the removal of the marrow.

A calcaneum from the same layer has a chop mark on the surface which would have been in contact with the astragalus and this can only have been made during or after the separation of these bones. A knife used with a sawing action had been used to remove meat from two cattle-size vertebrae found in a twelfth-century pit.

Two mandibles found in pits, one eleventh to twelfth-century and one twelfth-century, had no P₂. In both cases there was a scar in the bone possibly left when the deciduous tooth was lost and not replaced by a permanent tooth. In one case the P₄ was at wear stage f and in the other it was visible in the bone but not yet erupted. There was only one example of dental attrition which was caused by the P₃ wearing away part of the P₂ in an eleventh to twelfth-century mandible.

Sheep Age

There is as yet no satisfactory method which enables us to give a definite 'age at death' from teeth. An estimate of the animals' ages has been made using Grant (1982) and Payne (1973). Only two mandibles had all three molars. One from the eleventh to twelfth century had a MWS of 33 which indicates an age of 2-3 years. The other from the twelfth century had an MWS of 23 suggesting that the

Table 31. Sheep ages estimated from teeth.

	<i>1 month</i>	<i>9-12 months</i>	<i>1-2 years</i>	<i>2-3 years</i>	<i>3-4 years</i>	<i>4-6 years</i>	<i>6-8 years</i>
C11-12	-	3	2	4	1	-	-
C12	1	-	4	5	1	2	1
C13	-	-	-	1	-	-	-
Total	1	3	6	10	2	2	1

Table 32. Sheep epiphysial fusion data. All bones in each group, which fuse at approximately the same age, are represented in the following figures.

Approx. Age	Bone	C11-12			C12			C13			Total inc. 'med'.		
		UF	F	%F	UF	F	%F	UF	F	%F	UF	F	%F
10 month	Scapula	0	1	100	0	7	100	0	2	100	0	10	100
	Humerus D												
	Radius P												
	Pelvis												
1-2 years	Phalanx I	1	4	80	5	3	37	0	2	100	6	9	100
	Phalanx II												
	M/carpal												
	Tibia D												
2½-3 years	Femur P	1	2	67	1	0	0	-	-	-	3	2	40
	Calc.												
3-3½ years	Tibia P	-	-	-	2	0	0	-	-	-	2	0	0

animal was 1-2 years old. The other dental evidence was estimated using Grant's table 3 (1982, 100).

Table 31 shows that 40% of the animals were killed between 2 and 3 years of age, which under most conditions is the most economical age at which to kill sheep for meat. They will possibly have given three fleeces and the females may have provided milk for cheese.

With so few samples it is impossible to be sure, but the evidence points to most of the animals living longer than 1-2 years but few living beyond 3 years. This agrees with the dental evidence.

Sheep Size

The few measurements are within the range of measurements from other local sites, towards the lower end. One horn core, one horn-core base and a fragment were found, but no hornless skulls. No polled frontal bones were recovered from Saxon and medieval Walton Vicarage site (Noddle 1976, 280) but from medieval George Street (Jones 1983, 35) there were six horn cores and pieces of five polled skulls. The length of the almost complete horn core was 50mm and it was from a young animal.

Sheep Pathology and Abnormalities

A tooth, M₂, from an eleventh to twelfth-century pit had a ring of disturbed enamel growth. This hypoplasia may be related to vitamin B deficiency or it can be faulty development due to systemic disturbances resulting from infection (Baker and Brothwell 1980, 143).

A maxilla from a twelfth-century pit displayed problems with the eruption of the permanent dentition, partially caused by overcrowding of the teeth and partially by the retention of the deciduous teeth. The P³ is erupting but is displaced distally. The m³ is still in place but the P⁴ is erupting horizontally through the palatine process of the maxilla, behind the m³. Anomalous eruption sequences may be due in some cases to malnutrition in early life (Levitan 1985, 43).

Also from a twelfth-century pit an M² has five pits in the dentine. This condition, pulp cavity exposure, is due to excessive dental attrition and its occurrence will depend on such factors as softness of dentine, ingestion of soil and malnutrition (Jenson 1974, 209-10).

Dental attrition was noted in three mandible fragments, between m₂, m₃ and M₁, between a

Table 33. Pig epiphysial fusion data. All bones in each group, which fuse at approximately the same age, are represented in the following figures.

Approx. Age	Bone	C11-12			C12			C13			Total inc. 'med.'		
		UF	F	%F	UF	F	%F	UF	F	%F	UF	F	%F
1 year	Scapula Humerus D }	2	0	0	1	0	0	0	1	100	3	1	25
2-2½ years	M/podia Phalanx I } Tibia D }	-	-	-	6	0	0	3	2	40	9	2	18
3½ years	Humerus P } Femur PD } Tibia P }	-	-	-	2	0	0	1	0	0	3	0	0

P₄ and an M₁ and between M₂ and M₃.

Three eleventh to twelfth-century and three twelfth-century lower leg bones, some gnawed, are eroded (carpal, phalanx II, fragment, astragalus, 2 calcanea). They were the only bones in their contexts so affected and it is likely that they have passed through the digestive system of dogs.

Pig

Using eruption information in Bull and Payne (1982, 56) and Sisson and Grossman (1966, 488) age estimates were calculated for the teeth. The results were one animal of 3 months, three of 9 months and five about 1 year old. There was no evidence for any animal over 1 year old. This is unusual and probably an effect of the small number involved.

Table 33 shows that a large percentage of the animals were 1 year or less when killed, but at least two animals were 2 years old or more. At George Street (Jones 1983, 36) most of the pigs killed were under two years old, and at Flaxengate (O'Connor 1982, 33) it is noted from the late eleventh century there was a reduction in the slaughter age with the peak changing from 2-3 years to 1-2 years.

There were too few measurements to give any idea of the size of these animals.

Horse

Thirteen horse bones, in six contexts, gave a

minimum number of six animals. All the measurements came from small animals and the fusion evidence showed all the animals were mature. The only dental material providing ageing data was one mandible from an animal of 20-40 years old. This mandible was found in a thirteenth-century well. Half the P₃ is worn away and the alveolus is filled with bone. There are sign of periodontal disease especially around the P₃.

From the same context came a first phalanx with heavy chop marks near the distal end, probably caused when the lower leg was separated at this point. A second phalanx, also found in the well, has cut marks on three sides halfway down the bone, probably the results of skinning.

Other Animals

Seven bones from quite small dogs, a minimum number of three, were found in the first two periods. A radius has a haematoma 16mm by 4.5mm halfway down the shaft on the medial edge. The hare remains, found in the thirteenth-century well, may have been caught for food but the bone may also have found its way there accidentally, in the same manner that the toad and rat bones got into the twelfth and eleventh to twelfth-century pits.

Most of the domestic fowl bones are from small birds. A goose radius from the thirteenth-century well has a slice cut off the

proximal end and 4 rows of 15–25 parallel cut marks 0.4–0.6mm apart down the shaft.

Interpretation of Animal Remains

Definite conclusions cannot be safely drawn from such a small group of bones but one of the most consistent facts is that most of the main domestic species were killed when relatively young. This is no surprise with the pig, whose most important function is to supply meat, but more unusual for cattle and sheep. Although they will have provided horn, hide, wool, milk, manure etc. in small quantities, it seems that

they also were kept mainly to provide meat.

Nearly three per cent of eleventh to twelfth-century and twelfth-century sheep bones show signs of serious malnutrition. If the other animals were also poorly fed, it would be one reason for their small size.

Measurements

Where these are different from those described by von den Driesch (1976) they are marked by an asterisk and an explanation has been given.

<i>Horse</i>										
Mandible	m3	m7	m19	m20	m22a	m22b	P ₄	M ₁	M ₂	M ₃
	105.8	70.7	178	170	79.7	57.2	21×14	21×14	20×13	29×11
Phal I	GL	Bp	BFp	Dp	SD	Bd	BFd			
	76.5	53.1	48.0	36.5	32.0	45.1	39.8			
	72.5	50.1	45.8	34.0	30.3	40.8	37.9			
Phal II	45.0	48.7	41.6	29.1	38.3	43.9				
	45.8	53.6	45.1	–	44.9	49.0				

<i>Cattle</i>													
Horn core	length 100, diameter base 39.3, least diameter base 31.2, basal circumference 120.												
Mandible	m1	m3	m4	m5	m6	m7	m8	m9	m10	m11	m15a	m15b	m15c
	303	79.0	225	195	255	116.3	80.6	39.8	32×11	97.2	62.2	37.2	28.9
Radius	Bp	BFp											
	67.7	61.6							33×13				
Astragalus	GL1	GLm	D1	Bd									
	63.6	58.3	37.0	44.0									
	60.5	55.3	33.0	37.3									
Phal I	GLpe	Bp	SD	Bd									
	c.47.0	21.3	21.3	21.0									
	55.3												
Phal II	Bp												
	38.9												
	36.4												
Phal III	DL	MBS											
	61.7	19.6											
	61.1	20.1											
	c.62.0	22.4											
	58.3	17.1											

Sheep

Mandible	m7	m8	m9	m10	m12	m13	m14
	70.9	47.3	22.7	18×7	62.7	56.9	88.6
	-	-	-	18×7	-	-	-
	-	-	-	21×8	-	-	-
	-	-	-	20×8	-	-	-
Atlas	GLF	BFcr	BFcd	H			
	39.1	-	40.8	34.0			
	41.2	46.6	44.5	36.0			
Humerus	BT	HT*	HTC*				
	-	16.7	12.8				
	25.6	16.5	14.1				
Radius	BFp						
	24.8						
M/carpal	GL	Bp	SD	BFd	Dim	Dil	
	-	-	-	24.0	-	-	
Pelvis	SHpu*	SBpu*	MRDA*				
	5.5	7.7	c.3.3				
Tibia	BD	Dd	-				
	24.4	-	-				
	22.8	17.2	-				
M/tarsal	-	19.4	-	-	-	-	
	c.118.0	-	11.2	22.9	12.6	12.6	
	-	-	-	23.0	12.5	12.3	
Astragalus	GL1	GLm	D1	Bd			
	-	24.0	14.3	16.5			
	25.8	-	14.5				
	28.9	-	16.3	19.5			
	27.4	-	15.4	17.2			
Phal I	GLpe	Bp	SD	BD			
	32.5	-	-	-			
	c.33.0	-	-	-			
	33.8	12.8	10.5	12.3			
	c.31.0	-	-	10.8			
Phal II	-	Bp	-	-			
	-	9.7	-	-			

Pig

	Crown length	Anterior crown width
M ¹	16.2	13.9
M ²	20.9	15.7
M ₁	21.0	12.5
	21.3	12.5
	20.5	13.0

m ₃	Crown length 14.1	Posterior crown width 8.4					
Scapula	GLP 30.7	BG 23.0					
<i>Dog</i> Phal I	GL 22.2	Bp 7.5					
<i>Hare</i> Ulna	BPC 9.3	SDO 12.1	DPA 11.1				
<i>Rat</i> Femur	GL 36.7	GLC 35.7	Bp 8.1	BTr 7.7	DC 3.6	SD 4.1	
<i>Domestic Fowl</i> Coracoid	GL 50.8	Lm 48.0 43.5	Bb 14.5	BF 11.5			
Scapula	Dic 8.8						
Radius	Did 6.6						
Ulna	Did 10.3						
Femur	GL 67.6	Lm 63.7	BP 13.6	Dp 9.4	SC 6.2	Bd 13.2	Dd 10.8
Tarso- metatarsus	SC 5.8	Bd 11.3					
<i>Goose</i> Carpo- metacarpus	GL 83.4	L 83.1	Bp 20.9	Did 10.9	Max width both shafts 10.7		

HT = Height of trochlea, taken at right angles to BT.

HTC = Diameter of trochlea at central constriction.

SHpu = Min. diameter of shaft of pubis.

SBpu = Minimax diameter of shaft of pubis. (Minimax = Diameter of the smallest circle that will enclose a cross-section of the shaft.)

MRDA = Medial rim depth of acetabulum.

BFd = Breadth of the distal articulation.

Dim = Anterior-posterior diameter on internal trochlea, medial condyle.

Dil = Anterior-posterior diameter of internal trochlea, lateral condyle.

Plant Remains and Mollusca
by Stanley Cauvain

The finds were separated by flotation from bulk samples taken from medieval pits and ditches and a medieval well. All the samples comprised a mixture of pieces of charcoal, carbonised seeds, molluscs and mineral matter. Separation of the mineral matter was largely achieved with carbon tetrachloride. The carbonised seeds and molluscs were removed for identification. All the carbonised material was found in features with secondary fills so the information that it provides for the site economy is limited. The main food crops represented, in order of decreasing proportion, are wheat, barley, and oats. Carbonised wheat seeds in any given sample were generally at least twice as numerous as the combined barley and oats total. Other possible food crops are suggested by the presence of *Brassica*, *Vicia*, and *Medicago* species. Parsley was present in one sample (2016). Many of the other seeds are typical 'weeds of cultivation' or of hedgerows. As such they are likely to have arrived on the site with harvested food crops and so may be the remains of cleaning processes.

Preservation of the carbonised material was fairly poor and there was clear distortion of many seeds. Using Hubbard's numerical codes the carbonised seeds can be generally classified as preservation category 5 and distortion category 3 to 4 (Hubbard 1977, 5).

Except for relatively large numbers of *Ceciliodes acicula* in many samples there were few terrestrial snails. Both damp and dry habitats were indicated by the species present. Dry habitat species were typical of short calcareous grassland, for example *Pupilla muscorum* and *Vallonia costata*.

Full details of plant remains and mollusca are retained in the Archive Report.

Wood

A quantity of wood was recovered from the medieval well (198), consisting of twigs and larger pieces, identified by Anne Miles (*pers. comm.*) as beech (*Fagus* sp.) and ash (*Fraxinus*

sp.). There were a number of joining pieces which were shaped, and possibly fragments of a bucket or barrel stave (context 421, SF 1153).

Discussion
by Alison Hawkins

Prehistoric Occupation

No prehistoric features were found, although there was a small amount of Early Bronze Age pottery, as at Walton Lodge (see above), and a larger quantity of Late Iron Age pottery, together with 'Belgic brick'. The volume of Late Iron Age material present seems to indicate greater activity in the area than would be explained by manuring, the suggested interpretation of the Roman material, but whether it indicates settlement remains uncertain.

Roman and Saxon Occupation

A small quantity of Roman and Early Saxon pottery was present, and can be explained as the product of manuring arable fields although, since the excavation, a Saxon sunken-feature building was discovered 60m to the north-west (Dalwood and Hawkins forthcoming).

The Medieval Occupation

Date and Character of the Site

The excavated area produced 37kg of medieval pottery, much from sealed features, described in detail above, and this indicated a twelfth-century date for most of the pits; one pit and the well had late twelfth to early thirteenth-century fills (Table 24).

The ditches to the south of the site (Fig. 18) appeared to be the earliest features and suggest that the excavated area was within a single medieval tenement in existence from the eleventh or early twelfth century.

These ditches are similar to Ditches 1 and 2 at Walton Vicarage (Farley 1976, 233), where a bank between the two ditches formed a substantial boundary sub-dividing the manorial enclosure. The two ditches at the Teachers' Centre excavation may have had a similar

bank between them. The later stakehole fence-line suggested continuity of this boundary although a change took place in its form. The medieval features north of the two ditches (451 and 452) must relate to the activity within a single plot over a number of years, the area only being enlarged to the south-west in the post-medieval period.

The contents of the pits suggest domestic occupation in the vicinity, probably on Walton Road (Fig. 17). The excavated area may lie in the yard area behind any such buildings; ceramic roof-tile, present in many of the twelfth to thirteenth-century features, suggested that such buildings had tiled roofs.

An industrial function seems a possible interpretation for the shallow pits: the two pits in the northern part of the site were similar in dimension and lay close together, suggesting that they had related or identical functions. Their shape, the green staining in one pit (283), and the finds from them, which included spindle whorls (Fig. 27:6-8) and a glass linen polisher (Fig. 28:19), suggested a link with textile manufacturing processes. The north-west to south-east alignment of these pits may reflect a parallel boundary of the tenement to the north, outside the limit of excavation. Pottery dated these pits to the twelfth century.

There was a complete lack of mid-fourteenth to sixteenth-century pottery from the site. A similar gap was found at George Street, Aylesbury (Allen and Dalwood 1983) and is known from other towns. As discussed by Palliser (1987) the interpretation of this absence is not straightforward. The infilling of the well in the thirteenth century may be associated with a decline in activity and a final abandonment of this area; but the general pattern has been evidenced at all other excavated sites in Aylesbury and Walton and seems likely to reflect the widespread change in dispositional practices described by Carver (1987, 9), which may be associated with the effects of the Black Death.

The Extent of the Medieval Settlement

As suggested above, the excavated area may have lain within a yard area adjacent to domestic buildings lining Walton Road to the south-east. Evidence has been found for medieval occupation extending in both directions. To the north-east in Walton Road a 'semi-underground hut' (probably a cellar) was excavated in 1905 (Cocks 1909) and has now been redated to the eleventh century (M. Farley, *pers. comm.*). To the south-west, at Walton Vicarage, tenth to eleventh-century occupation was found in the form of parallel ditches and gullies similar to those found at the Teachers' Centre (Farley 1976, 233-5). The medieval village of Walton appears to follow the same layout as the Walton of the 1800 enclosure award map (Fig. 29).

Food Production and Preparation

Information about food production came from the animal bone and seeds recovered from the medieval pits, although the sample size was small. There was a noticeable preponderance of animals slaughtered while young, presumably for meat.

The main food crop represented was wheat, and barley was also present. The small amount of oats present would have been grown as animal fodder.

Craft Activity and External Contacts

Evidence was found of wool production in the form of loomweights and spindle whorls, and possibly of leather-working or linen production indicated by the three linear pits in the north of the excavated area. All the pottery appeared to have been produced within Buckinghamshire, the products of the Brill/Boarstall kilns being the furthest influence. No imported pottery has been recognised at any of the Walton excavations, although it has been found in Aylesbury (Yeoman 1983). Walton was politically and economically bound to Aylesbury, a town with a developed urban character in contrast to the rural hamlet of Walton.

Saxon Settlement to Medieval Village

Excavation that has taken place so far in

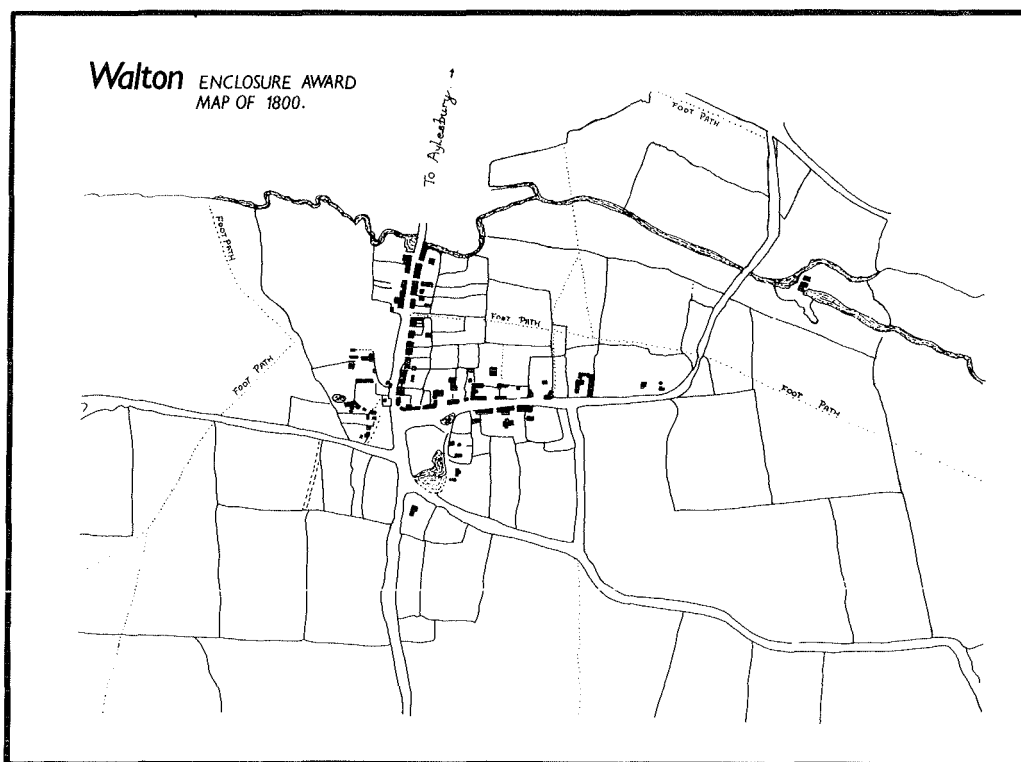


Fig. 29. Walton enclosure award, 1800.

Walton suggests that although Saxon occupation of Walton was continuous, settlement foci shifted within the area.

Excavation at Walton Vicarage (Farley 1976) and the Teachers' Centre site produced evidence for the beginning of nucleation and the regular division of land. The tenth and eleventh-century features at Walton Vicarage were associated with a contemporary manor house. Similar ditches parallel to each other and at right angles to the road at the Teachers' Centre site are dated a century or more later.

At Walton Vicarage (*ibid.*), and at Croft Road and Walton Police Houses (Dalwood and Hawkins forthcoming), linear Saxon gullies were found as well as later medieval gullies. The early medieval ditches are not substantial features, but are markedly rectilinear, and may indicate a permanent reorganisation of the land organised from the

manor, part of a more general process of rural settlement nucleation, falling into a regional pattern (Austin 1986).

Features such as pits are well spread out, reflecting the rural nature of the community, unlike the intensive use of land from the twelfth century found within Aylesbury (Allen and Dalwood 1983). Although closely connected with Aylesbury, Walton was a rural hamlet, and remained so until the nineteenth century when it became absorbed into the growing town.

There was a complete lack of mid-fourteenth to sixteenth-century pottery from the site. A similar gap was found at George Street, Aylesbury (Allen and Dalwood 1983) and is known from other towns. As discussed by Palliser (1987) the interpretation of this absence is not straightforward. The infilling of the well in the thirteenth century may be

associated with a decline in activity and a final abandonment of this area; but the general pattern has been evidenced at all other excavated sites in Aylesbury and Walton and seems likely to reflect the widespread change in dispositional practices described by Carver (1987, 9), which may be associated with the effects of the Black Death.

Acknowledgements for both Excavations

The excavations carried out by Aylesbury Past Project were only made possible by Manpower Services Commission funding through the Buckinghamshire County Council Community Programme Agency, and thanks are due to them for their help and support. The project was sponsored by the Buckinghamshire County Museum and thanks are also due to the Museum staff for their time and encouragement. The County Land Agent kindly gave access to both sites in advance of projected redevelopment, and tolerated the excavations continuing beyond their planned completion dates. The excavation itself was carried out by members of the Project as well as local volunteers, who often worked in adverse conditions. We would like to thank D. Andrews, T. Barrington, P. Collins, P. Cresswell, A. Cruickshank, R. Curwen, R. Day, J. de la Ford, P. Dudley, H. Girling, H. Golder, A. Hailey, A. Jones, J. Kopel, R. Maple, R. McMellon, C. Miller, P. Nareike, G. Read, P. Rothery, J. Senior, N. Stone, A. Pellant, A. Rodick, and A. Wood for their hard work and enthusiasm, often in poor weather.

Cathy Underwood was the finds supervisor from October 1985 to January 1986, Gillian Sharp from March to August 1986 and Jane Evans from September 1986. John Dillon was site supervisor for the Walton Lodge excavation and part of the Teachers' Centre excavation, and Alison Hawkins (*née* Kain) took over there as site supervisor in September 1986. The overall project was under the direction of Hal Dalwood.

The project received generous help from many people and bodies and we would especially like to thank Hozelock A.S.L. for the gift of a water pump for the wet-sieving

tank, Buckinghamshire County Council Engineers' Department for the extended loan of surveying equipment, and the Buckinghamshire County Museum Archaeology Department for the loan of various items of excavation equipment.

The rather intractable pottery was studied by the successive finds supervisors, and the advice of P. Blinkthorne, L. Brown, A. Ellison, B. Hurman, S. Jennings, D. Knight, M. Mellor, S. Raven, and A. Vince is gratefully acknowledged. The petrological analysis of the pottery was carried out by A. Woods and D. Robson and tests for vegetable dyes were performed by P. Walton and P. Windsor. The help of project members K. Bryant and V. Kempster (pottery) and S. Buchanan, J. Harlow, A. Hailey, and N. Stone (finds recording) played an important part in the completion of the finds study. Reports on the seeds were made by J. Giorgi and S. Cauvain, the samples having been processed by project member P. Dudley. The illustrations are by D. Andrews, H. Dalwood, R. Day, J. Evans, A. Hawkins, and W. Matthews, and the report was typed by D. Cresswell, Pauline Misseldine, and Pam Russell.

Especial thanks are due to Mike Farley for his encouragement and support for all stages of the project, and its subsequent publication.

The Society is particularly grateful to R. Raphael & Sons Plc, for a generous contribution to the cost of publishing this report, the first part of which refers to land they now own and occupy in Walton.



R. Raphael & Sons Plc.

Private Bankers since 1787

BIBLIOGRAPHY

- Alcock, L. 1972. *By South Cadbury is that Camelot ... Excavations at Cadbury Castle 1966-67* (London).
- Allen, D. 1981. 'The excavation of a Beaker burial monument at Ravenstone, Buckinghamshire, in 1978', *Arch. J.* **138**, 72-117.
- Allen, D. 1982. 'Salvage excavations at 13-19 Buckingham Street and the Bull's Head redevelopment site, Aylesbury, in 1979 and 1980', *Recs. Bucks* **24**, 81-106.
- Allen, D. 1986. 'Excavations at Bierton, 1979: a Late Iron Age settlement and evidence for a Roman villa and a 12th to 18th century manorial complex', *Recs. Bucks* **28**, 1-120.
- Allen, D. and Dalwood, C. H. 1983. 'Iron Age occupation, a Middle Saxon cemetery and twelfth to nineteenth century urban occupation: excavations in George Street, Aylesbury in 1981', *Recs. Bucks* **25**, 1-60.
- Armitage, P. L. 1982. 'A system for ageing and sexing the horn cores of cattle from British post-medieval sites (with special reference to unimproved British longhorn cattle)', in Wilson, R. *et al.*, 37-54.
- Armitage, P. L. and Clutton-Brock, J. 1976. 'A system of classification and description of the horn cores of cattle from archaeological sites', *J. Arch. Sci.* **3**, 329-48.
- Austin, D. 1986. 'Central Place theory and the Middle Ages', in Grant, E. (ed.), *Central Places, Archaeology and History* (Sheffield) 95-103.
- Avery, B. W. 1964. *The Soils and Land Use of the District around Aylesbury and Hemel Hempstead* (London).
- Avery, M. and Close-Blocks, J. 'Shearplace Hill, Sydling St. Nicholas, Dorset, House A: a suggested reinterpretation', *Proc. Prehist. Soc.* **35**, 345-51.
- Baines, A. H. J. 1984. 'The Danish Wars and the establishment of the Borough and County of Buckingham', *Recs. Bucks* **26**, 11-27.
- Baker, D. and Hassall, J. 1979. 'St. Mary's Street', in Baker D., Baker, E., Hassall, J. and Simco, A., 'Excavations in Bedford, 1967-77', *Beds. Arch. J.* **13**, 127-45.
- Baker, J. and Brothwell, D. 1980. *Animal Diseases in Archaeology* (London).
- Barrett, J. 1976. 'Deverel-Rimbury, problems of chronology and interpretation', in Burgess, C. and Miket, R. (eds), *Settlement and Economy in the Second and Third Millennium B.C.* (BAR Brit. Ser. 33) 289-307.
- Barrett, J. and Bradley, R. 1980. 'Later Bronze Age Settlement in South Wessex and Cranborne Chase', in Barrett, J. and Bradley, R. (eds), *Settlement and Society in the British Late Bronze Age* (BAR Brit. Ser. 83) 181-208.
- Benfield, S. 1987. 'The Roman Pottery from Aylesbury', unpublished typescript, Buckinghamshire County Museum.
- Biddle, M. 1964. 'Excavations of a Motte and Bailey Castle at Therfield, Hertfordshire', *J. Brit. Arch. Ass.* (3rd ser.) **27**, 81-2.
- Bradley, R. 1978. *The Prehistoric Settlement of Britain* (London).
- Bradley, R., Lobb, S., Richards, J. and Robinson, M. 1980. 'Two Late Bronze Age settlements on the Kennet Gravels: excavations at Aldermaston Wharf and Knights' Farm, Burghfield, Berkshire', *Proc. Prehist. Soc.* **46**, 217-95.
- Briscoe, T. 1981. 'Anglo-Saxon pot stamps', in Brown, D., Campbell, J. and Hawkes, S., *Anglo-Saxon Studies in Archaeology and History 2* (BAR Brit. Ser. 92) 1-36.
- Bull, G. and Payne, S. 1982. 'Tooth eruption and epiphysal fusion in pigs and wild boar', in Wilson, R. *et al.*, 55-71.
- Burstow, G. P. and Holleyman, G. A. 1957. 'Late Bronze Age settlement on Itford Hill, Sussex', *Proc. Prehist. Soc.* **23**, 167-212.
- Cameron, K. 1979. 'The meaning and significance of the Old English *walh* in English place-names', *J. English Place-name Soc.* **12**, 1-53.
- Carr, R. forthcoming. [Excavations at Brandon, Suffolk.]
- Carstairs, P. 1984. 'Iron Age occupation at Long Crendon', *Recs. Bucks* **26**, 92-101.
- Carver, M. O. H. 1987. 'The nature of urban deposits', in Schofield, J. and Leech, R. (eds), *Urban Archaeology in Britain* (CBA Res. Rep. 61) 9-26.
- CAS. County Antiquities Survey (Sites and Monuments Record) held at Buckinghamshire County Museum, Aylesbury.
- Clutton-Brock, J. 1976. 'The animal resource', in Wilson, D. M. (ed.), *The Archaeology of Anglo-Saxon England*, (Cambridge) 373-92.
- Cocks, A. H. 1909. 'A semi-underground hut in Walton Road, Aylesbury', *Recs. Bucks* **9**, 280-96.
- Coles, J. 1963-4. 'Scottish MBA metalwork', *Proc. Soc. Arch. Scotland* **97**, 82-156.
- Cotton, M. and Frere, S. S. 1968. 'Ivinghoe Beacon excavations, 1963-5', *Recs. Bucks* **18**, 187-260.
- Crummy, N. 1983. *The Roman Small Finds from Excavations in Colchester 1971-9* (Colchester Arch. Rep. 2).

- Cunliffe, B. 1970. 'A Bronze Age settlement at Chalton, Hants (Site 78)', *Antiquaries J.* **50**, 1-13.
- Cunliffe, B. 1978. *Iron Age Communities in Britain* (2nd edn, London).
- Cunliffe, B. and Phillipson, D. W. 1968. 'Excavations at Eldon's Seat, Encombe, Dorset', *Proc. Prehist. Soc.* **34**, 191-237.
- Dalwood, C. H. forthcoming. 'The flints', in Farley M. E. [Excavations at Prebendal Grounds, Aylesbury].
- Dalwood, C. H. and Hawkins, A. J. forthcoming. 'Excavations in Walton, Aylesbury, 1987', *Recs. Bucks.*
- Dalwood, C. H. and Platell, A. C. 1988. 'Aylesbury Past Project, 1987', *South Midlands Arch.* **18**, 35-9.
- Dangerfield, J. and Merriman, R. J. 1974. 'Report on the petrology of the armlet', in Williams, J. H., *Two Iron Age Sites in Northamptonshire* (Northampton).
- Denham, V. 1985. 'The pottery', in Williams, J. H., Shaw, M. and Denham, V., *Middle Saxon Palaces at Northampton* (Northants Archaeological Monograph 4).
- Drewett, P. 1982. 'Late Bronze Age downland economy and excavations at Black Patch, East Sussex', *Proc. Prehist. Soc.* **48**, 321-400.
- Driesch, A. von den 1976. *A Guide to the Measurement of Animal Bones from Archaeological Sites* (Harvard).
- Ellison, A. B. 1975. 'Pottery and settlement of the later Bronze Age in Southern England', unpublished PhD thesis, University of Cambridge.
- Ellison, A. B. 1982. 'Middle Bronze Age pottery', in Drewett, P. 361-71.
- Elvey, G. R. 1976. 'Note on the history of Walton', in Farley, M. E. 1976.
- Farley, M. E. 1974. 'Aylesbury - a defended town?', *Recs. Bucks* **19**, 429-48.
- Farley, M. E. 1976. 'Saxon and medieval Walton, Aylesbury: excavations 1973-4', *Recs. Bucks* **20**, 163-290.
- Farley, M. E. 1979a. 'Burials in Aylesbury and the early history of the town', *Recs. Bucks* **21**, 116-21.
- Farley, M. E. 1979b. 'A Carp's Tongue hoard from Aylesbury, Buckingham', in Burgess, C. and Coombs, D., *Bronze Age Hoards* (BAR Brit. Ser. 67) 145-8.
- Farley, M. E. 1980. 'Middle Saxon occupation at Chicheley, Buckinghamshire', *Recs. Bucks* **22**, 92-104.
- Farley, M. E. 1986. 'Archaeological notes from Buckinghamshire County Museum', *Recs. Bucks* **28**, 211-14.
- Farley, M. E. forthcoming. [Excavations at Prebendal Grounds, Aylesbury.]
- Farley, M. E., Nash, D. and White, R. F. 1981. 'A Late Iron Age and Roman site at Walton Court, Aylesbury', *Recs. Bucks* **23**, 51-75.
- Farley, M. E., Shackley, M. L. and Cundill, P. R. 1984. 'A Middle Iron Age site in the Vale of Aylesbury', in Catherall, P. D., Barnett, M. and McClean, H., *The Southern Feeder* (Brit. Gas, London), 28-35.
- Fingerlin, I. 1971. *Gürtel des hohen und späten Mittelalters*.
- Foard, G. and Pearson, T. 1985. 'The Raunds Area Project: first interim report', *Northants Arch.* **20**, 3-21.
- Gilchrist, R. and Mytum, H. 1986. 'Experimental archaeology and burnt animal bone from archaeological sites', *Circaea* **4**, 29-38.
- Grant, A. 1982. 'The use of tooth wear as a guide to the age of domestic ungulates', in Wilson, R. *et al.*, 91-108.
- Green, H. S. 1974. 'Early Bronze Age territory and population in Milton Keynes, Buckingham, and the Great Ouse Valley', *Arch. J.* **131**, 75-139.
- Greeb S. 1986. 'Objects of worked bone and antler', in Allen D. 1986, 30.
- Grigson, C. 1982. 'Sex and age determination of some bones and teeth of domestic cattle: a review of the literature', in Wilson, R. *et al.*, 7-23.
- Haldon, R. and Mellor, M. 1977. 'Late Saxon and medieval pottery', in Durham, B., 'Archaeological investigations in St. Aldates, Oxford', *Oxoniensia* **42**, 111-39.
- Harden, D. B. 1984. 'The glass', in Rogerson, A. and Dallas, C., 'Excavations at Thetford 1949-59 and 1973-77', *E. Anglian Arch.* **22**, 116.
- Hawkins, A. J. and Dalwood, C. H. 1988. 'Salvage excavation of a Roman enclosure at the Watermead Roundabout, near Aylesbury, in 1987', *Recs. Bucks* **30**, 161-4.
- Head, J. F. 1946. 'Buckinghamshire AD 450-700', *Recs. Bucks* **14**, 301-40.
- Herne, A. J. forthcoming. [MBA flint assemblage from Shaft X, Grimes Graves, Norfolk.]
- Hodges, R. 1982. *Dark Age Economics* (London).
- Holden, E. W. 1963. 'Excavations at Hangleton', *Sussex Arch. Coll.* **101**, 162-5.
- Holleyman, G. A. and Curwin, E. C. 1935. 'Late Bronze Age lynchet settlements on Plumpton Plain', *Proc. Prehist. Soc.* **1**, 1-59.
- Hubbard, R. N. L. B. 1977. 'Suggested numerical codes for preservation and distortion in carbonised seeds', unpublished typescript.
- Hurst, J. G. 1955. 'Saxo-Norman pottery in East Anglia: part I. General discussion and St. Neots ware', *Proc. Cambridge Antiq. Soc.* **49**, 43-70.
- Hurst, J. G. 1976. 'The pottery', in Wilson, D. M.

- (ed.), *The Archaeology of Anglo-Saxon England* (Cambridge) 283–348.
- James, S. and Marshall, A. 'An early medieval building tradition', *Arch. J.* **141**, 182–215.
- Jensen, R. 1974. *Diseases of Sheep* (New York).
- Jones, G. G. 1983. 'The medieval animal bones', in Allen D. and Dalwood, C. H. 1983, 31–44.
- Jones, G. G. 1986. 'The animal bones', in Allen, D. 1986.
- Jones, M. 1986. 'The plant remains'. in Allen, D. 1986, 39–44.
- Knight, D. 1986. 'Native Iron Age pottery', in Allen, D. 1986, 16–21.
- London Museum 1940. *Medieval Catalogue*. (London).
- Longley, D. 1980. 'Runnymede Bridge 1976: excavations at the site of a Late Bronze Age settlement', *Research Rep. Surrey Arch. Soc.* **6**, 13–33.
- MacGregor, A. 1982. 'Anglo-Scandinavian finds from Lloyds Bank, Pavement and other sites', in Addyman, P. (ed.), *The Archaeology of York* **17**, 67–174.
- MacGregor, A. 1985. *Bone, Antler, Ivory and Horn* (London).
- Maltby, J. M. 1979. *Faunal Studies on Urban Sites: the Animal Bones from Exeter 1971–75* (Sheffield).
- Matthews, C. L. 1976. *Occupation Sites on a Chiltern Ridge* (BAR Brit. Ser. 29).
- Mercer, R. 1981. *Farming Practice in British Prehistory* (Edinburgh).
- Merrifield, R. 1987. *The Archaeology of Ritual and Magic* (London).
- Metcalf, D. M. 1983. 'An eighth-century Anglo-Saxon coin from Walton, Aylesbury', *Recs. Bucks* **25**, 176–7.
- Millet, M. 1983. 'Excavations at Cowdery's Down, Basingstoke, Hampshire, 1978–81', *Arch. J.* **140**, 161–279.
- Moore, J. 1979. 'The remains of a 17th century clay pipe kiln at 13 Castle St., Aylesbury, and the pipes from a probable kiln site at Whitehall St.', *Recs. Bucks* **21**, 123–140.
- Musson, C. 1970. 'House plans and prehistory', *Curr. Arch.* **2/10**, 267–75.
- Needham, S. 1980. 'The bronzes', in Longley, D., 13–27.
- Noddle, B. A. 1976. 'Report on the animal bones from Walton, Aylesbury', in Farley, M. E. 1976, 269–87.
- Noddle, B. A. 1980. 'The animal bones', in Wade-Martins, P., *East Anglian Arch.* **9/32**, 375–412.
- Oakley, G. E. and Hall, A. D. 1979. 'The spindle whorls', in Williams, J. H., *St. Peter's Street, Northampton: excavations 1973–1976* (Northampton) 286–9.
- Oakley, G. E. and Hunter, J. 1979. 'The glass', in Williams, J. H., *St. Peter's Street, Northampton: excavations 1973–1976* (Northampton) 296–302.
- O'Connor, T. 1982. *Animal Bones from Flaxengate, Lincoln. 870–1500* (London).
- Oswald, A. 1975. *Clay Pipes for the Archaeologist* (BAR Brit. Ser. 14).
- Palliser, D. 1987. 'The medieval period', in Schofield, J. and Leech, R. (eds), *Urban Archaeology in Britain* (CBA Res. Rep. 61) 54–69.
- Parrington, M. 1978. *The Excavation of an Iron Age Settlement, Bronze Age Ring-ditches and Roman Features at Ashville Trading Estate, Abingdon (Oxfordshire) 1974–76* (CBA Res. Rep. 28).
- Payne, S. 1973. 'Kill-off patterns in Anatolian sheep and goats: the mandibles from Aslan Kale', *Anatolian Studies* **23**, 282–303.
- Peacock, D. P. S. (ed.) 1977. *Pottery and Early Commerce* (London).
- Pitts, M. W. 1978. 'Towards an understanding of flint industries in post-glacial England', *Bull. Inst. Arch. Univ. London* **15**, 179–97.
- Radley, J. 1971. 'Economic aspects of Anglo-Danish York', *Medieval Arch.* **15**, 37–57.
- Rahtz, P. A. and ApSimon, A. M. 1962. 'Excavations at Shearplace Hill, Sydling St. Nicholas, Dorset, England'. *Proc. Prehist. Soc.* **28**, 289–328.
- Rowlands, M. J. 1976. *The Organisation of Middle Bronze Age Metalworking* (BAR Brit. Ser. 31).
- Sadler, P. 1990. 'Faunal remains', in Fairbrother, J., 'Facombe Netherton; excavation of a Saxon and Medieval manorial complex, Part II', British Museum Occasional Paper No. 74, 462–508.
- Schiffer, M. B. 1976. *Behavioural Archaeology* (New York).
- Silver, I. A. 1969. 'The ageing of domestic animals', in Brothwell, D. and Higgs, E. S. (eds), *Science in Archaeology* (London) 283–302.
- Sisson, S. and Grossman, J. P. 1966. *The Anatomy of the Domestic Animals* (4th edn).
- Stone, J. F. S. 1941. 'The Deverel–Rimbury settlement on Thorney Down, Winterbourne Gunner, S. Wilts', *Proc. Prehist. Soc.* **7**, 114–33.
- Straker, V. 1979. 'The plant remains', in Williams, F., 'Excavations at Marefair, Northampton, 1977', *Northants Arch.* **14**, 78, fiche 27–8.
- Vince, A. 1984. 'New light on Saxon pottery from London area', *The London Archaeologist* **4/16**, 431–9.
- Waterman, D. M. 1959. 'Late Saxon, Viking and Early Medieval finds from York', *Archaeologia* **97**, 59–106.
- Waugh, H., Mynard, D. C. and Cain, R. 1974.

- 'Some Iron Age pottery from Mid and North Bucks with a gazetteer of associated sites and finds', *Recs. Bucks* **19**, 373-421.
- Wilson, R., Grigson, C. and Payne, S. (eds) 1982. *Ageing and Sexing Animal Bones from Archaeological Sites* (BAR Brit. Ser. 109).
- Yeoman, P. A. 1983. 'The medieval pottery', in Allen and Dalwood, 20-8.
- Young, C. J. 1977. *The Roman Pottery Industry of the Oxford Region* (BAR Brit. Ser. 43).
- Zeevat, R. J. 1987. 'Worked stone', in Mynard, D. C. (ed.), *Roman Milton Keynes* (Bucks Arch. Soc. Monograph Ser. 1) 145-6.